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INSIDE DOPE

by GEORGE F. TAUBENECK

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Stories of the Week

Stalled in the merciless going-home evening traffic, a friend of ours did his best to control his temper. He was sore at:

(a) His automobile, and all the so-and-so's who manufactured it;

(b) The blithering idiots behind him who were blasting away on their horns.

With a tremendous display of patience, fortitude, and goodwill-toward-mankind he dismounted, offered his apologies to the raucous driver next in line, and suggested:

"Let's make a deal. I'll honk your horn while you try to get my car started."

Daughter: "My husband will have to dance well, sing happily, keep me amused, stay home nights, and shut his big mouth whenever I warn him."

Disgruntled Father: "What you mean is that you want to marry a television set."

"This stinks," fumed the Great Movie Producer, as he read the typed script of a ghost-written speech. "Doesn't sound a bit like me."

"Yessir. You're right, sir. What would you suggest, sir?" chimed in a fourth assistant producer.

"Study my literary style. The writer who gave me that speech I delivered last Tuesday had it. Write like he did."

Gags of the Week

"Next to being shot at and missed, nothing is quite as satisfying as an income tax refund."—*Sunshine.*

"Rod Belcher, who has been a radio announcer in Tacoma, Wash., is moving to a San Francisco station and is changing his name to Rod Hughes. Reason: his sponsor in San Francisco is a beer company."—*Tide.*

You can be sure that if you laugh at your troubles you'll never run out of something to laugh at.

Quotes of the Week

"People will buy anything that's one to a customer."—SINCLAIR LEWIS.

"A Texas lawyer offered a free divorce as a door prize at a recent contest between a Texas Optimist Club and the Junior Chamber of Commerce."—PAUL CADO.

The FACT that reason too often fails does not give fair ground for the hysterical conclusion that it never succeeds. Reason can be compared to the force of gravitation, the weakest of all natural forces, but in the end the creator of suns and stellar systems.—A. N. WHITEHEAD.

Thrift: A moss-grown obsession of those primitive men whose only accomplishment was to create the U. S. of America."—*SFC Spotlight.*

Prosperity for America lies not in limiting opportunities for some, but in expanding opportunities for all.—LEWIS H. BROWN, *Invention News.*

We may affirm absolutely that nothing in the world has been accomplished without passion."—GEORG WILHELM HEGEL.

My study of the faces of men who

(Concluded on Page 8, Column 1)

Carrier Halts Sale Of Food Freezers to Dealers, Distributors

SYRACUSE, N. Y.—Carrier Corp. has announced that shortages of critical materials have resulted in a decision to discontinue the sale of food freezers to its distributors and dealers.

The company said these materials "will be utilized to the best possible advantage in the production of air conditioning equipment."

Officials reported that Carrier would continue to manufacture food freezers for limited distribution outside the dealer organization. They added that this change should permit the manufacture of more air conditioning equipment for sale to dealers than would otherwise be possible.

Carrier's distributors and dealers have been advised of the decision and that it is anticipated that the materials situation will permit the resumption of food freezer sales through dealer outlets at some future time.

10-Mos. Refrigerator Sales Set Record

(See table on page 17)

NEW YORK CITY—Sales of household refrigerators for the first 10 months of 1950 exceeded 5,000,000 units, reports of 16 producers to the National Electrical Manufacturers Association indicated recently.

The sales of these manufacturers reached 5,043,110 units. This figure is well above the Nema total for the industry's best previous year, 1948. The 1948 mark was passed in September.

October sales by these firms, however, numbered only 420,431 units. They brought to an end a run of seven straight months in which refrigerators sold in excess of 500,000 units per month.

The October total was the second lowest of the year. The January figure was 375,856 units.

October sales were 21% under those of September though still 58% higher than in the same month in 1949. A similar sharp drop was noted in October, 1949, when sales fell 18% below those of September of that year. In 1948, however, October sales were about 11% higher than in September.

7th All-Industry Show May Be Biggest Yet

WASHINGTON, D. C.—L. C. McKesson, chairman of the Show Committee of the Refrigeration Equipment Manufacturers Association and vice president in charge of sales of Ansul Chemical Co., announced the sale of 57% of available space for the 7th All-Industry Refrigeration and Air Conditioning Exposition to be held at Navy Pier, Chicago, Nov. 5-8, 1951.

"This can only mean one thing," said McKesson. "It means that there is no great doubt about the holding of the show, and it also means that this will be the largest show of its kind ever held and will hang up a record for the largest attendance of any show ever held in the refrigeration industry."

Members of Rema who have been assigned space up to and including Jan. 8, number 94.

Space will be available to any company manufacturing a product or offering a service identified with the refrigeration and air conditioning in-

(Concluded on Back Page, Column 2)

Are Home Appliances Being Hoarded In New England?

WASHINGTON, D. C.—Are household appliances being held off the market in anticipation of a shortage and higher prices?

A New England textile machinery firm official claims that they are. And due to his testimony before a Congressional group here, the Senate Small Business committee is taking steps to find out just what the situation is.

Arthur W. Knight, president of William Allen's Sons Co., Worchester, told the committee that barns and warehouses in his area are being rented by distributors for storage of refrigerators, ranges, and other appliances. His claims were voiced during a hearing on how the steel scarcity is affecting small business. Sen. J. J. Sparkman, committee chairman, said that a study of the major appliance supply situation will be made.

There were several other witnesses at the hearing including Russ Maintain, president of Maintain Store Engineering Service, Boston; and John E. Wilson, Jr., president of Wilson Refrigerator Co., Inc., Smyrna, Del.

Among other matters brought to light at the meeting were complaints that too much steel is going to the automobile industry and that car makers have not had to slash production as much as other industries.

A plan for controlling materials so as to assure small business of an adequate supply was put forth by Mrs. Ethel Purdy, owner of a steel warehouse firm in Lyndhurst, N. J.

Sterner Named by General Controls

GLENDALE, Calif.—General Controls Co.'s appointment of D. S. "Doug" Sterner as manager of the Refrigeration Controls Div., has been announced by J. F. Ray, vice president in charge of sales.

D. S. Sterner

At the same time, Ray announced that General Controls has opened a factory branch sales office at 1035 N. Pennsylvania St., Indianapolis, Ind., and plans to build a factory and warehouse at Skokie, Ill. Richard H. Weber has been named to manage the Indianapolis office.

The company said Sterner's appointment indicates "an emphasis on increased activity in the field of

(Concluded on Back Page, Column 5)

Phila. Distributor Cancels All Dealer Franchises

PHILADELPHIA—Cancellation of all outstanding dealer franchises has been announced by Philadelphia Distributors, a major appliance and television wholesaler in this area.

Reason given for the move, which will affect dealers in Deepfreeze, Ironrite, Stromberg-Carlson, Capitol kitchens, and Horton home laundry equipment, was that the distributor's list of dealers has been growing, while factory shipments have been dwindling. Albert E. Hughes, partner, in the firm, stated that Philadelphia Distributors needs more time to "re-examine" its list.

Said he: "We have been asked con-

(Concluded on Back Page, Column 2)

New Fedders Room Cooler Line Has ⅓-Ton Model

BUFFALO—A new line of room air conditioners featuring a ⅓-ton model especially engineered and styled for use in bedrooms has been introduced by Fedders-Quigan Corp.

In addition to the ⅓-ton unit, the 1951 line consists of four other window models with ½-ton and ¾-ton cooling capacities and six consoles which range from ¾-ton to 1½-ton capacities.

The line was shown to more than 100 key distributors, here from all parts of the country to view Fedders' 1951 products.

Addressing the distributors, Salvatore Giordano, president of the corporation, said popularity of room air conditioners has developed so rapidly during the last two years that manufacturers could not possibly meet the demand in 1951 even if all necessary materials were easily available.

Predicting a total output this year of about 200,000 units, which is approximately the same number of

(Concluded on Page 4, Column 4)

Price Roll-Back, Wage Freeze Awaited

WASHINGTON, D. C., Jan. 25—Price ceilings will be in effect before the week is out.

That's the prediction of officials here as Eric Johnston, new boss of the Economic Stabilization Agency, got things under way.

A "freeze" of wages is expected to follow shortly after the imposition of a price roll-back to Jan. 2 levels, as presently contemplated by the administration.

While the price stabilization and the wage "freeze" reportedly will be blanket affairs, a procedure is being set up whereby affected parties who feel an adjustment should be made can appeal their cases.

Under the somewhat flexible wage formula collective bargaining could be continued. In general it would allow workers to make a pay rate about 10% higher than that of January, 1950.

Schafer Sees 30-50% Consumer Durables Cut

CHICAGO — Keynoting the third annual Coolerator Conclave at the Morrison hotel here, Ward R. Schafer, Coolerator vice president and general manager, predicted that the national arms program would affect a curtailment of consumer durables production of over 30% and probably 50% by the end of 1951.

Schafer also predicted that there would be substitutions in future production to conserve on critical materials for the preparedness program. Coolerator, however, would refuse to use substitutes unless they will give many years of faithful service, Schafer said.

Inspite of shortages and rising costs, Schafer told Coolerator distributors that they "can be assured of an adequate supply of refrigerators, at least for the first half of 1951 and we will introduce new models as soon as spring buying makes itself felt. The picture on freezers is likewise good for the first half of the year."

Although Coolerator has traditionally introduced new models each fall, the firm this year has postponed such introduction to maintain production during the scarce buying early this

(Concluded on Back Page, Column 2)

Defense Output Chief Maps New Warning on Cuts

Harrison Plans Meeting With Appliance Mfrs. To Discuss Future Steel Use

WASHINGTON, D. C.—A conference between appliance manufacturers and Defense Production Administrator William Harrison on steel cutbacks was expected to be called momentarily as the National Production Authority ordered a further reduction in civilian use of the critical metal.

It was believed that Harrison planned to warn manufacturers of appliances regarding future restrictions on use of steel. A similar but separate meeting with metal furniture producers was also planned.

In another new order, the NPA prohibited the use of nickel in a great many non-essential items. Under the order, nickel silver or nickel plate may not be used in numerous products starting March 1, and nickel-bearing stainless steel or high-content nickel alloys may not be used in several items beginning April 1.

Among products covered by the order are water coolers, domestic appliances, automatic vending machines, hand tools, and toys.

In certain cases, the NPA pointed out, manufacturers will be permitted to use one form of nickel, where others are prohibited. For example, electric toasters may be nickel plated but can't be made with stainless steel or high nickel alloys.

Also during the week, the NPA issued an order on chlorine which, in effect, reserves 10% of the chemical for defense production and guarantees about the same amount for public health facilities. The action indirectly reduces chlorine supplies for use in refrigerants, plastics, and other items. Controls were also placed on the use of tungsten.

Before the week was out, the agency was expected to issue other orders intended to conserve supplies of tin and zinc. There was talk that the NPA may restrict end uses of steel before long and that all basic chemicals probably will be under control within six weeks or two months.

Meanwhile, the Senate Small Business Committee heard warnings that production of refrigerators and other consumer goods may be seriously affected unless the NPA's 45% cut-

(Concluded on Page 4, Column 5)

Wilson Predicts Plan To Allocate Materials

WASHINGTON, D. C.—Plans for a Controlled Materials Plan somewhat similar to that in force during World War II are now being prepared by the government, top defense production officials told the Senate Small Business Committee.

Defense Mobilization Chief Charles E. Wilson said such a plan will be instituted as soon as the government learns how much the Defense Department will spend on specific strategic materials and how it wants deliveries scheduled. He indicated that it would be a month or so before this "vast job" could be completed.

The committee heard similar com-

(Concluded on Back Page, Column 3)

Ward, Sears Catalogs Show Appliance Boosts

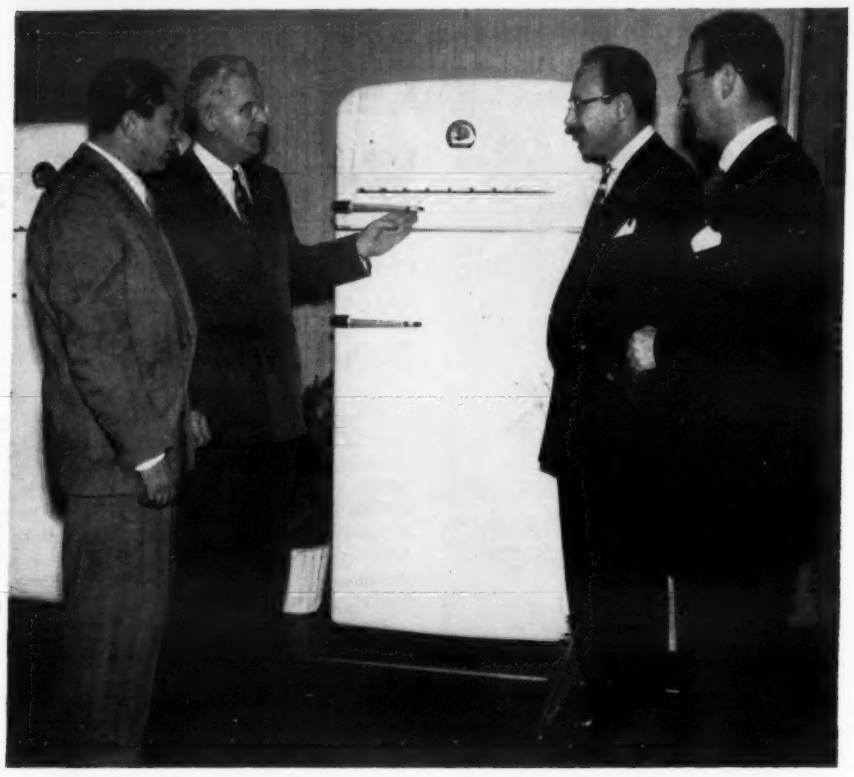
CHICAGO — Substantial price boosts on appliances are included in the spring catalogs of both Sears, Roebuck & Co. and Montgomery Ward & Co.

Sears has reduced its refrigerator line from 6 models to 3 and is not offering its automatic washing machine which first appears in the catalog last January.

Price cuts in the appliance field are given below:

Sears' refrigerator line has a 7.4 and 7-cu. ft. model, up $5 and $10, respectively, from a year ago. A new

(Concluded on Page 4, Column 3)



Moisture, Temperature Control Catches Eye

KELVINATOR'S 1951 two-door refrigerator-freezer with new moisture and temperature control catches the eye of two visitors from humidity-conscious Washington, D. C. D. A. Packard, Kelvinator household sales manager (second from left) tells all about it at Kelvinator's American Furniture Mart display space. Others are (l. to r.) George Wasserman, president, and Philip P. Keller, general manager, George's Radio & TV Co., Washington, D. C.; and Frank Kelley, Kelvinator.

Economic Stabilization Agency Plans To Open 13 Regional Offices

WASHINGTON, D. C.—Opening of local offices in the 13 regions of the Economic Stabilization Agency was expected to be announced momentarily, the agency said.

Regional offices and the states they will serve are as follows:

Region I—141 Milk St., 4th floor, Boston; for Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, and Vermont.

Region II—2 Park Ave., 11th floor, New York City; for New York and New Jersey.

Region III—Commercial Trust Bldg., 11th floor, 15th and Market Sts., Philadelphia; for Delaware and Pennsylvania.

Region IV—900 North Lombardy St., 2nd floor, Richmond, Va.; for Maryland, North Carolina, Virginia, and West Virginia.

Region V—Silvey Bldg., 114 Marietta St., N.W., Atlanta; for Alabama, Florida, Georgia, Mississippi, South Carolina, and Tennessee.

Region VI—1901 East 13th St., Cleveland; for Kentucky, Michigan, and Ohio.

Region VII — Room 426, Court House Bldg., 219 South Clark St., Chicago; for Illinois, Indiana, and Wisconsin.

Region VIII—Northwestern National Bank Bldg., Room 1009, 620 Marquette, Minneapolis; for Minnesota, Montana, North Dakota, and South Dakota.

Region IX—112 Ninth St., Kansas City, Mo.; for Iowa, Kansas, Missouri, and Nebraska.

Region X—Fisher Bldg., 3306 Main St., Dallas, Tex.; for Louisiana, Oklahoma, Arkansas, and Texas.

Region XI—Central Savings Bldg., 5th floor, 15th and Arapahoe Sts., Denver; for Colorado, New Mexico, Utah, and Wyoming.

Region XII—1000 Geary St., San Francisco; for Arizona, California, and Nevada.

Region XIII—National Bank of Commerce Bldg., 1110 Second Ave., Seattle; for Idaho, Oregon, and Washington.

Action In 2 Municipalities Supports Use of Household Garbage Disposers

Fond Du Lac To Remove Grinder Installation Ban

FOND DU LAC, Wis.—An ordinance enacted five years ago placing a municipal ban on installation of garbage grinders in private homes is to be repealed, according to John E. Murray, commissioner.

Murray said he will ask Jerold E. Murphy, corporation counsel, to prepare an ordinance to repeal the ban.

City officials have been assured by Bruno J. Hartman, designer of the new sewage treatment plant, engineer and president of the Donohue Engineering Co., Sheboygan, that the use of such kitchen appliances would not hamper operation of the sewage plant as feared when the ban was imposed.

Hartman told city officials that the new grinders use large quantities of water in pulverizing garbage, and that the dumping of waste into the sewage system would cause no damage or trouble.

Mount Dora, Fla. To Buy Units To Sell To Residents

MOUNT DORA, Fla. — What is hoped will be the South's first town-wide installation of electric garbage disposers was started in this Florida resort community Jan. 25.

In an attempt to improve sanitation and simplify garbage collection, Mount Dora has signed a contract to buy General Electric disposers for resale to local householders at a special price of $99.95, including installation.

The town has received an initial shipment of 50 G-E disposers. These went on sale at the city hall. As the supply is depleted, additional orders will be placed. Mayor D. Fletcher Crane said he hoped that every one of the town's 1,500 householders would eventually install disposers, but emphasized that they will not be compelled to do so.

The town is buying the disposers from General Electric Appliances, Inc., the Florida distributor of G-E major appliances, and will sell them direct to homeowners, who can pay cash or finance their purchase through the local bank. Three local plumbers and two local electricians will make the installations.

The mayor said that at present the town is charging householders $9 a year, or 75 cents a month, for garbage and refuse collection. The bill be cut in half for people who install garbage disposers, and henceforth they will pay only for trash collection.

Although Mount Dora has a sewage system, 90% of its houses are connected to septic tanks. General Electric representatives pointed out that garbage disposers work just as well on septic tanks as on a city system.

Mayor Crane said that the idea for installing disposers on a town-wide basis stemmed from the successful experiments made in Jasper, Ind., and Herrin, Ill., last year. In the former town, G-E disposers were sold to householders by the company's distributor. Herrin handled the transaction in the same way as Mount Dora.

General Controls Offers Television Program Featuring Leo Carrillo

GLENDALE, Calif. — A new kind of television program, underscoring "the American way of life," was unveiled Jan. 23 when "Leo Carrillo's American Diary," sponsored by General Controls Co. here, was inaugurated over station KLAC-TV.

"The format of the show will feature a series of programs based on Carrillo's long-time personal friendships with outstanding and successful U. S. businessmen," the automatic controls manufacturer said. "Carrillo will weave into these life stories the underlying principles of the American way of life and the free enterprise system that made it possible for them to reach the top of the success ladder."

"Leo Carrillo's American Diary" will be seen twice monthly in Los Angeles, on alternating Tuesday evenings at 9:45 p.m. on KLAC-TV. In 14 other major cities in the nation, the TV program will be seen via kinescope.

Cities included in the nationwide coverage of the show are San Francisco, Seattle, Salt Lake City, Dallas, Kansas City, St. Louis, Chicago, Detroit, Cleveland, Birmingham, Pittsburgh, Philadelphia, Washington, D. C., and New York. Shows produced locally will be scheduled two weeks later in these other communities.

Cuckoo Ad Tells Public Straight Facts on Credit Curbs

HERKIMER, N. Y. — "Don't Let Credit Regulations Drive You Cuckoo!"

That was the theme of an eye-catching newspaper advertisement by William's Appliances, 113 Park Ave., to clarify some of the confusion existing in customers' minds concerning the provisions of Regulation W.

Credit curbs under Regulation W admittedly have curbed appliance business here in recent months. It is felt that this drop in business is due as much to confusion over the regulations as to actual inability of customers to meet payments. So William's decided to do something about it.

The advertisement was built around a sketch of a cuckoo clock, with the cuckoo bird jumping out to issue his familiar call.

Advertising copy read: "You can still pay the same easy way at William's. Here are facts.

"No down payment required on appliance purchases up to $50—charge them to your account. Or, open a new account today and pay on liberal credit terms.

"Twenty-five per cent down payment, 15 months to pay, on appliances selling for more than $50. You pay just $25 down on a purchase of $100 worth of electrical appliances, So shop now at our big store on long, convenient budget terms."

Detroit Appliance Sales Up 83% In Last Quarter

DETROIT—Retail sales of household appliances in Wayne county (Detroit and western suburbs) for the third quarter of 1950 were 83.5% higher in dollar volume than in the same quarter of 1949.

For the first nine months of 1950, sales, as reported by 318 dealers in the area, were 57.2% higher than in the same segment of 1949.

Third quarter sales were estimated at $10,527,399 as compared with $5,737,638 in the same period of 1949. Nine months sales were $24,578,367 and $15,637,107, respectively.

These figures were compiled by the *Detroit News* by converting the state retail sales tax collections into total sales volume without adjustment for statutory exemptions or refunds.

Pittsburgh Mart To Be March 12-15

PITTSBURGH — The Pittsburgh Wholesale Merchants Association, a division of the local Chamber of Commerce, will hold its 18th Merchandise Mart at Syria Mosque, March 12-15, the group announced.

A dealer show, the Mart will feature the new lines of ranges, records, kitchens, hardware, housewares, paint, lighting fixtures, radios, television, electric appliances, hard and soft floor coverings, mattresses, toys, and sporting goods.

Worthington Pump Names W. A. Finn Gen. Manager Of European Activities

HARRISON, N. J.—W. A. Finn has been named general European manager of Worthington Pump & Machinery Corp., here, and is en route to Paris, it was announced by S. R. Williams, vice president in charge of foreign business.

He replaces A. W. Fraser, who is assuming an executive sales position with Worthington and will make his headquarters in Chicago in February.

Finn graduated from the Naval Academy at Annapolis in 1922 and served in the U. S. Navy until 1926. He then joined Worthington as an estimator and sales engineer in the Steam Power Div. From 1930 to 1941 he acted as New England district sales manager and then was granted a leave of absence until 1946 to serve with the U. S. Navy.

During that time he graduated from the U. S. Naval War college in Newport, R. I., December, 1942, and served on the staff of the Allied Naval Commander-In-Chief U. S. Expeditionary Force and later as staff commander of U. S. Naval Forces in Germany. Upon his retirement with rank of captain, USNR, he rejoined Worthington as manager of the export department.

Fraser, after graduating from Northeastern university with a BMA degree, joined Worthington training course in 1929 and became sales engineer in various Worthington offices and plants throughout the country. In 1937 he became Chicago district manager and in 1945 general European manager.

Harry Alter Will Head Chicago Electric Assn.

CHICAGO—The Electric Association here recently elected the following officers for the coming year:

Harry Alter of the Harry Alter Co., president; John McC. Price of the Allen Bradley Co., vice president; Axel H. Kahn of General Supply Corp., treasurer; and Clifford C. Simpson, secretary.

Lee Shell Co. Wins Hill Sales Contest With 186% of Quota

TRENTON, N. J.—The C. V. Hill Co. has announced that the Lee Shell Co. of Chicago has won the C. V. Hill 1950 sales contest, with 186% of their quota.

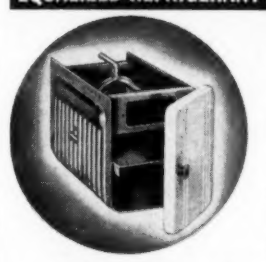
John Staples, general sales manager, and W. L. Yde, northwestern district manager, personally presented to the Lee Shell organization a gold plaque for its victory. In addition, each man in the organization was presented with a 17-jewel Gruen wrist watch.

Mr. and Mrs. I. W. Shell were awarded a trip to New York with all expenses paid, including a suite at the Waldorf Astoria hotel. The Shells were to be entertained by factory heads and their wives. As a further reward, Irving W. Shell was invited to the factory at Trenton, N. J., to become a member of the C. V. Hill advisory board for the year of 1951.

In a special bulletin, C. V. Hill, Jr., vice president, comments:

"The Lee Shell Co. offers complete facilities to all their customers. These facilities include store planning, wood working, and sheet metal jobs, refrigeration installation and services. They have an experienced sales organization. This well rounded customer service is the main reason why this live wire organization won the Hill contest."

MORE FROZEN FOOD STORAGE
EQUALIZED REFRIGERANT DISTRIBUTION



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Stainless Steel, all refrigerants, Evaporators. Sizes 3½ to 10 cubic feet.

Write for bulletin E-6

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Packaged Air Conditioning Units 2 to 15 Tons

Condensing Units ¼ hp. to 40 hp.

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Established 1854

COLD PLATES
For the Refrigeration Industry

• For quick freezing, chilling and holding, short period cooling and other applications. Made by men who KNOW refrigeration.

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- Plug-in Cord
- Sturdy Aluminum Casting
- Nickel Bronze Alloy Grinding Rotor
- Compact—22½" high, 14" wide, 17" deep
- Safety-tested
- Fully Automatic
- Sanitary

Dealers wanted throughout all territories

INTERNATIONAL PRODUCTS CORP.
8056 MELROSE AVE. • LOS ANGELES 46, CALIF.
Manufacturers of Draft Beer Systems and Stainless Steel Refrigerators and Bottle Coolers.

Big Walk-In Helped This Firm Expand

Pepper Co. Tried to Handle Dates Too, But Spoilage Nearly Wrecked Venture

WOODBURY, Ga. — One of the largest food storage walk-in refrigerators ever constructed in Georgia is enabling Hill Bros., operator of the world's largest pepper-packaging plant, to keep its entire staff of employees on the payroll through the off season winter months.

Hill Bros., whose pepper products are familiar throughout the nation, experienced considerable difficulty each year in the past because it had to lay off valuable employes during the off season. These often drifted away, leaving worrysome "holes" in the personnel list.

In order to compensate for this problem, the Hill Bros. concern began searching for other food products whose processing and packaging would permit the firm to keep the entire staff on duty the year-round.

African dates offered one answer, for there is a fine market in the U. S. which had never been thoroughly exploited. Therefore, Hill Bros. set up an expensive importation program, whereby green dates are picked in Oran, North Africa, shipped to New York City, and trucked from there to Woodbury.

The dates, it felt, offered sufficient income to support 12-month payrolls for the entire crew.

SPOILAGE SNAGS PLAN

A serious snag in this operation developed, however. Dates, after the long sea journey from Africa, proved to be far more perishable than was first expected.

Large quantities of dates were spoiling while awaiting pasteurization to kill bacteria and microbes, or immediately following the pasteurizing operation.

What was required was some form of safe, secure refrigeration to hold the dates in a suspended state, until needed.

The job of designing such a holding room, went to Gordon L. McWilliams, president of Refrigeration Appliances, Inc., of Atlanta, and a qualified refrigeration designing engineer.

After several trips to Woodbury, to study the problem, McWilliams decided on a 60 by 120-ft. walk-in cooler, which is now in constant operation at the Hill Bros. plant.

WALK-IN HOLDS 1,000 TONS

The big refrigerated building, built of concrete block with a 2-in. asbestos and 1-in. cork insulation, is large enough to accommodate 2,000,000 lbs. of dates. The dates can be held at a temperature of 34°, with varying humidity, according to the type of date involved and the length of time it has been exposed to outside temperature.

Thermostatic control makes it possible to vary the humidity as desired, but under normal circumstances, humidity is held to between 50% and 60%.

Dates are rushed directly to the cooler, where they are set, in the green state and in the original lugs and refrigerated until the pasteurizing process begins. Pasteurizing, via steam and boiling water, also cooks the dates ready for sugaring and sale.

After pasteurization, the dates are allowed one day to cool to normal room temperature.

Then they are transferred to the cooler, to be refrigerated again to 34° and held until time for shipping then arrives.

By constant maintenance of the 34° temperature, just above the freezing point, both the green, unprocessed date and the final product sugared and packed for the market, can be maintained with no spoilage loss whatsoever, the company has found.

Refrigeration supplied for the date box consists of a 25-ton Frick system, with floor-type units, plus overhead ducts, to distribute cooled air throughout the building.

Some 30,000 c.f.m. of air are circulated through the interior, returned, and recirculated. An evaporative cooler for the condenser, permits lower cost operation. A water jacket using well-water cools the condensing unit.

Practical experience, in the few months that this big installation has been in use, indicates that dates may be held for indefinite periods without risk of spoilage.

Mason To Represent Alpha Line of Low Temp Cabinets In Chicago

DETROIT—Frank P. Mason's appointment as factory representative in the Chicago area for Alpha Electric Refrigeration Co., manufacturer of low temperature refrigeration cabinets, has been announced by Charles Earl, head of Alpha.

Frank P. Mason

For the past year Mason has been sales promotion manager for Triangle Industries, Chicago Distributor, and previously was product engineer for H. U. Mann, distributor for Deepfreeze located in the Chicago area.

Mason's background in refrigeration goes back to 1928 when he began as a household refrigerator salesman.

He then got into service work and for several years before the war maintained a Stewart-Warner sales and service agency in Dallas. Wartime experience included service as a government inspector, and then for three years he was in charge of the refrigeration, heating, and air conditioning classes of the Chicago Technical Institute.

He was also technical advisor for the *Refrigeration Serviceman's Manual*.

For a number of years more or less as a hobby Mason has been actively interested in developing low temperature cabinets for laboratory use.

MISSING SOMETHING?

More and better useful information is yours for the asking. See "What's New" page.

New Alcoa Processing Plant Planned to Boost Aluminum Output 50%

PITTSBURGH—Aluminum Co. of America, as part of its effort to make more aluminum available for America's defense and civilian needs, will build a a new alumina plant near Bauxite, Ark., the company announced.

Construction is scheduled to begin immediately.

Designed to process low-grade bauxite ore, the new plant will increase by nearly 50% the amount of alumina now being produced by the company. Alumina is the refined ore from which basic aluminum is obtained by the smelting process.

To be operated by Aluminum Ore Co., wholly-owned subsidiary of Aluminum Co. of America, the new plant will be situated on a 200-acre site adjoining the bauxite mining operations of Alcoa Mining Co., also a wholly-owned Aluminum Co. subsidiary.

NAED Public Relations Post Goes to W. C. Pirie

NEW YORK CITY—The appointment of William C. Pirie as public relations manager for the National Association of Electrical Distributors was announced recently by Charles G. Coyle, executive director of the association.

Pirie comes to the association from the McGraw-Hill Publishing Co. where he has been business manager of *Electrical Wholesaling* and *Electrical Construction and Maintenance*. Prior to that he had served as managing editor of *Electrical Wholesaling*. Previously he had been assistant advertising manager of Sylvania Electric Products, Inc.

NEW

1951 MILLS ALL IN ONE FREEZERS

Designed and Priced for Faster Selling!

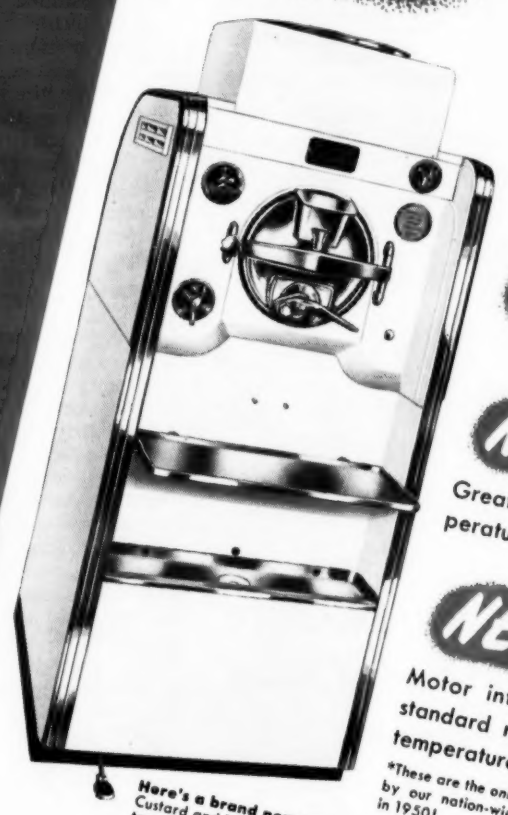
NEW — Gravity-Fed Refrigerated Hopper Model. Lower price, simpler operation—wider distributor sales opportunities!

NEW — *Draw-Off Custard Spigot available on all 1951 Hopper and Pump models!

NEW — *Extra Heavy Drive Head. Greater strength for lower temperatures!

NEW — *Two horsepower Agitator Drive Motor interchangeable with standard motor for extra low temperature custard operations.

*These are the only suggested changes offered by our nation-wide Distributor organization in 1950!



Here's a brand new model—The 1951 Mills Hopper Continuous Custard and Ice Cream Freezer (pumpless) is lower priced, simpler to operate and clean. 80% of your freezer buyers will want this Mills. This model is available with the new Draw-Off Custard Spigot.

The 1951 Mills Pump-Fed Refrigerated Side Cabinet Model is designed especially for the large operator. It provides great convenience and assures a steady supply of custard or ice cream. The new sanitary Draw-Off Spigot shown serves custard with the utmost speed and ease.

MILLS A GREAT NAME THAT SELLS A GREAT LINE FOR YOU TO SELL

The Mills *name* on counter freezers has meant top quality for 21 years. Every prospect knows and respects that name. He may not be familiar with the new 1951 models and features, but when you say *Mills*, your selling job becomes easier.

Therefore, the Mills *line* is a great *line* for you to sell. There is a model for every location. New products are being developed to make the line even larger and more profitable. Watch for these developments.

New and improved features on the 1951 line make fine machines even finer, and provide distributors with carefully engineered and tested selling features. Sales come faster, profits grow bigger, and service becomes lower when you sell Mills All-In-One Freezers!

MILLS INDUSTRIES INCORPORATED

4102 Fullerton Ave., Chicago 39, Illinois

Highly Profitable Territories are now Open for Reputable, Live-Wire Distributors

Due to present conditions, we have adjusted our sales plans, and distributorships are now open. Production quotas have been increased as a precaution against restrictions later. However, we expect an early season and suggest that potential distributors act at once.

We have a comprehensive sales plan backed up by a big national advertising campaign. Promotional material including mailers and free ad mats are available. Of course, Mills' *very* liberal discounts are expected to remain the same.

For more details, use the coupon. You will find Mills Freezer men the same reliable, helpful men that have been serving your industry for years. They will cooperate with you and your sales force.

MR. A. E. WILSON, SALES MANAGER, FREEZER DIVISION
Mills Industries, Inc., 4102 Fullerton Ave., Chicago 39, Ill.

Please send me ☐ 1951 literature or ☐ full information on profit potentials, and territories available in and around my area.

Name_____

Company Name_____

Address_____

City_____ Zone_____ State_____

Government Contracts

PROCUREMENT INFORMATION

The following is a list of proposed procurements issued by the various indicated U. S. Government procurement offices. This list is compiled and made available daily on a free pick-up basis. Prospective bidders may obtain complete bid sets by a request **to the purchasing office under which the purchase is listed** in this Synopsis. Be sure to identify completely the bid invitation you wish by including in your request the item description, the invitation number or reference number and the opening date. This will save time in filling your request. For reasons of economy, specifications are normally not included with the bid invitations unless the specification is a new one. First time bidders on a particular item should request a copy of applicable specifications and drawings at the time the request for a bid set is made.

DEPARTMENT OF DEFENSE

It is not necessary to refer solely to the issuing office for additional data on a bid invitation issued by any of the following U. S. Army Ordnance Offices: Ordnance Tank Automotive Center; Detroit Arsenal; Frankford Arsenal; Picatinny Arsenal; Raritan Arsenal; Rock Island Arsenal; Springfield Armory; Watertown Arsenal; and Watervliet Arsenal. Complete information on any purchase listed by any of those offices alone can be obtained from the Ordnance District Office nearest you. Its address is on file in your nearest Department of Commerce Field Office. Do not ask an Ordnance District Office for information on a purchase unless it is listed by one of the above-named offices. **Ordnance District Offices do not have information on any other purchases.**

Description	Quantity	Invitation No.	Opening Date
Aviation Supply Office, 700 Robbins Ave., Philadelphia, Pa.			
Tubing Seamless Copper Various Sizes, Spec. Mil T 873, Ships	322,700 ft	C53149	1 Feb 51
Tubing Pure Copper Tubing Various Sizes WW T 799 A Amend 1	466,160 ft	C53149	1 Feb 51
Navy Purchasing Office, 111 East 16th St., New York City			
Valves, Relief	6 ea	8113	2 Feb 51
Expansion Joints	6 ea	8100	2 Feb 51
Refrigerator, Electric	6 ea	8100	2 Feb 51
Fittings, Silver Brazing	Various	8049	1 Feb 51
Aviation Supply Office, 700 Robbins Ave., Philadelphia, Pa.			
Tray Ice Cube Refrigeration With Separator Assembly Spec. 47 A 2 E	3,200 ea	H53706	2 Feb 51
Capacitor Fixed, Various Sizes To Be Equal to The Cornel Dubilier Elec Corp. and Aerovox Corp. And Solar Mfg. Corp. Part Numbers	3,430 ea	E11706	2 Feb 51
Capacitor Fixed, Oil Paper Various Sizes, Spec. Jan C 25 Amend 4	2,360 ea	E53340	2 Feb 51
Capacitors Fixed, Dry Electrolytic, Spec. Jan C 62 Amend 3	1,020 ea	E53340	2 Feb 51
Capacitors Fixed, Spec. Jan C 5 Amend 2	320 ea	E53340	2 Feb 51
Signal Corps Procurement Agency, 2800 South 20th St., Philadelphia 45, Pa.			
Belt "V" Rubberized Fabric	3,300 ea	1669-11	12 Feb 51
Officer In Charge of Construction, NOY-23896, U. S. Naval Station, New Orleans, La.			
Air Conditioning, Naval Station, New Orleans, La.	Bldg 157	26219	1 Feb 51
District Public Works Office, Ninth Naval District, Great Lakes, Ill.			
Work Consists of Reactivation Of Cold Storage Bldg. 412 at NAS Minneapolis, Minn.		26541	31 Jan 51
Work Consists of Air Cond. of Gyro Section Bldg. 10-NOP Forest Park, Ill., Dep of $10 Req. for Plans and Specs.		26435	1 Feb 51
Commanding General ORD Tank Auto Center, 1501 Beard St., Detroit, Mich.			
Condenser By-Pass	490 ea	2697	14 Feb 51
Aviation Supply Office, 700 Robbins Ave., Philadelphia, Pa.			
Fittings Regular Commercial Brass Connectors, Elbows, Nuts, Spec. Mil F 15049, Ships.	1,900 ea	H53427	5 Feb 51
Flared Tube Fittings, Inverted Unions, Various Sizes, Spec. Mil F 15049, Ships, and Mil B 895, Ships, Amend 1	1,000 ea	H53427	5 Feb 51
Compression Tube Fittings Elbows, Various Sizes, Sleeves, Various Sizes And Tees To Be Equal to The Weatherhead Co. or Imperial Brass Co. Part Nos.	85,650 ea	H53427	5 Feb 51
Supply Officer, Philadelphia Naval Shipyard, Philadelphia 12, Pa., Attn.: Purchase Section			
Tank, Hot Water, 15 & 20 Gal. Cap. In Accord With Govt. SK No. 13B And Mil Spec. Mil-H-965. Ships.	27 ea	Ships-1367	5 Feb 51
Gauges, Pressure, "U" Type, Compound, To Be In Accord with Mil Spec. Mil-E-15090, Ships, Navy Dept. Spec. 45-G-3E-45-G-10 -46-G-7B-17-P-8 and A F Navy Aero Spec. AN-P-44A	650 ea	Ships-1390	5 Feb 51
Supply Officer, Naval Proving Ground, Dahlgren, Va.			
Air Conditioners	2 ea	1-37	5 Feb 51
Navy Purchasing Office, 111 East 16th St., New York City			
Heater, Electric Water	15 ea	8234	13 Feb 51
Signal Corps Procurement Agency, 2800 S. 20th St., Philadelphia 45, Pa.			
Cooling Unit	145 ea	1684-11	26 Feb 51

GENERAL SERVICES ADMINISTRATION

Description	Quantity	Reference No.	App. Bid Date
Chief, Administrative Services Section, Public Buildings Service, General Services Administration, 12th Floor, 250 Hudson St., New York 13, N. Y.			
New Finish Coat on Boiler Insulation, U. S. Post Office, Leroy, N. Y.	1 job	PB-Region 2 11/30/50	1-25-51
Chief, Supply Section, Public Buildings Service, General Services Administration, Washington 25, D. C.			
Equalizer Tube for G-E Air Cond. Units, Models FB70 and FA50	300 ea	787	2-5-51
Chief, Purchase Branch, Federal Supply Service, General Services Administration, Room 528, U. S. Court House, 219 S. Clark St., Chicago 4, Ill.			
Ice Making Machines	1 unit of 2 ea	CH-22990	2-8-51
Extra Storage Unit	1 ea	CH-22990	2-8-51

CONTRACTS AWARDED AS OF JAN. 17, 1951

Description	Quantity	Dollar Value	Contractor and Address
Ordnance Tank Automotive Center, 1501 Beard St., Detroit 9, Mich.			
Fans		56,362.50	Schwitzer-Cummins
Navy Purchasing Office, New York, N. Y.			
Tubing, Copper Alloy	36,155 lbs	49,600.00	The American Brass Co., Waterbury, Conn.
Headquarters, Air Materiel Command, Wright-Patterson Air Force Base, Dayton, Ohio			
Aluminum Fan Blade Castings, cl-03A		54,355.00	Aluminum Co. of America, Washington, D. C.
Blowers and Spare Parts		63,984.00	Herman Nelson Div. of American Air Filter Co., Inc., Moline, Ill.
Raritan Arsenal, Metuchen, N. J.			
Barrier material aluminum foil, type I, .003 caliper, 24 in. wide, Spec. Jan-B-148.	540 rolls	27,334.80	Johnston Foil Mfg. Co., 6100 S. Broadway, St. Louis, Mo.
Corps of Engineers, U. S. Army, Chicago Procurement Office, 226 W. Jackson Blvd., Chicago 6, Ill.			
Ice Plants	2	42,302.00	Vilter Mfg. Co., 2217 S. First St., Milwaukee, Wis.
Ice Plants	5	43,639.85	York Corp., 185. N. Wabash Ave., Chicago, Ill.
Valves, brass & iron	4 items	46,340.00	Hajoca Corp., Washington, D. C.

DESIGNED FOR BEDROOM installation is this ⅓-ton Fedders-Quigan room air conditioner, part of the firm's new line of 11 models.

* * *

Fedders Line--

(Concluded from Page 1, Column 4)

room air conditioners as were manufactured by the entire industry in 1950, he indicated that there is an immediate market for almost 600,000 units.

"If there were no restrictions on materials, I doubt if the combined industry has the required precision facilities, to build more than 400,000 room air conditioners within the next 12 months," he said.

He explained that the company would continue to produce room air conditioner units at the highest possible rate within emergency restrictions set by the government.

"We believe that the future of the room air conditioner industry may soon rival that of television," he said. "The growth may not be so rapid because it does not have the entertaining appeal, particularly among children.

BIG MARKET OPENING UP

"The past several years, however, have proved that the public is becoming increasingly interested in the comfort and health features of air conditioning. When we consider the multiple sales potential in homes and the commercial applications, we begin to visualize a far greater market than is available to television or any other major appliance."

The ⅓-ton bedroom unit will sell at a price less than last year's most inexpensive models, the company stated. The other 10 models introduced are said to incorporate many improved engineering innovations and are restyled.

Anthony DeFino, general manager, outlined the company's position at the "present cross-roads of war and peace-time production." He related that a special staff has been assigned to cover industrial centers throughout the country to procure material for Fedders' assembly lines and help prevent as much as possible production shutdowns.

Robert E. Cassatt, advertising manager, revealed plans for the most extensive advertising and sales promotion campaign in the company's history.

WHAT FEDDERS WILL DO TO PUSH ROOM COOLERS

Keying his program to the theme, "He who ceases sales efforts in 1951 commits commercial suicide," Cassatt outlined a program which will see Fedders merchandise advertised in newspapers, television, national magazines, and trade and professional publications.

First to appear will be an institutional campaign placed in the *Saturday Evening Post*, with the initial advertisement to appear late in January. Additional full-page insertions in that publication will follow on a regularly scheduled basis.

Room air conditioner advertisements will appear throughout the summer in black-and-white single split pages in *Saturday Evening Post*, *Time*, *Newsweek*, *National Geographic*, and *Holiday*.

Regular monthly advertisements, beginning in January and continuing through August, are scheduled for AIR CONDITIONING & REFRIGERATION NEWS and *Electrical Merchandising*. First insertions will be two-color spreads, which will be followed by full pages in black-and-white.

In a staggered schedule beginning in February and running through Nov. 27, full pages will be placed in *Oral Hygiene*, *Journal of American Medical Association*, *Hotel Management*, *Tourist Court Journal*, *American Motel*, *Office Management & Equipment*, and *Casket & Sunnyside*.

Practically every major market will be covered by factory-sponsored television film commercials, Cassatt said.

The entire program for both the air conditioner and heating division, will be backed by a complete sales promotion campaign at the dealer level, Cassatt said.

Plan Mfrs. Meeting--

(Concluded from Page 1, Column 5)

back in the amount of polystyrene available for the plastics industry is reduced.

The new NPA steel directive, a revision of the original order, increases the amounts of steel that producers must set aside to fill orders with "DO" priority ratings.

The highest percentage is now 35% (for several types of alloy steels), compared with the previous top figure of 25%. Suppliers were also ordered to set aside larger amounts of some types of carbon steel, including hot and cold rolled sheets, and of stainless steel sheets and strip.

The order also calls for a tighter control over steel inventories. In addition, several new products were added to the list covered by the steel order.

First reaction of appliance manufacturers to the order was that it would not have much, if any, immediate effect on production. Officials of Westinghouse Electric Appliance Div. commented that the company has been hit harder by shortages of copper, nickel, cobalt, and aluminum than it has been by steel cutbacks.

Walter Schwartz, president of Proctor Electric Co., said the aluminum and nickel orders have hurt production more than the steel order. He added:

RADICAL CUT PLANNED

"We expect to reduce production radically in the second and third quarter and it may be severely curtailed by the fourth quarter."

The outlook regarding steel, aluminum, and copper supplies was outlined for the Senate Small Business Committee by Defense Mobilization Chief Charles E. Wilson.

He said there will doubtless be shortages of steel during the next few years pending the development of new production facilities. In the meantime, "we're going to have to do a lot of juggling," he observed.

But, he said, "I personally don't think there will be too severe shortages of steel once the new facilities come into production.

Describing the outlook on aluminum as "a little better," Wilson said new facilities will probably be brought into production in time to avoid too serious a shortage. The same prediction was made on copper.

Regarding the plastics supply situation, Dr. Lowell B. Kilgore of the NPA told the committee that the agency has instituted a voluntary allocation or pro-rata distribution system for raw materials required by plastic moldings plants. He predicted that by the end of 1951, suppliers of plastic materials will be able to deliver more materials.

Earlier, electric motor manufacturers told the NPA that production cutbacks might be necessary unless the government helps them obtain scarce copper and aluminum.

An NPA advisory committee representing this industry said that although most of the current motor orders carry "DO" ratings, which can be passed on to get copper and aluminum, suppliers of these metals are not filling "DO" orders promptly.

Mitchell In Production On 1951 Line of Room Air Conditioners

CHICAGO—The new 1951 line of Mitchell room air conditioners are now in production and are being shipped, according to E. A. Tracey, vice president in charge of the air conditioning division of the Mitchell Mfg. Co., here.

In addition to new and improved features on the regular ¾-hp. and ½-hp. units, Tracey announced two new units—a ⅓-hp. conditioner with a capacity of 4,200 B.t.u. per hour, and a heavy duty 1-hp. machines that has a capacity of 11,500 B.t.u. per hour. The ¾-hp. and ½-hp. units have capacities of 8,050 and 6,150 B.t.u. per hour, respectively.

All four of the units are of the window type and operate on Mitchell's "Dyna-Cooler" principle, which is said to "assure the maximum passage of low temperature refrigerant through the cooling system by eliminating bends and other obstacles."

Other features include the "Turbo-Dryer," the specially-designed "Air Scoop" fan, and the "Micro-Filter," which works with the "Air Scoop" to remove dust, soot, and pollen.

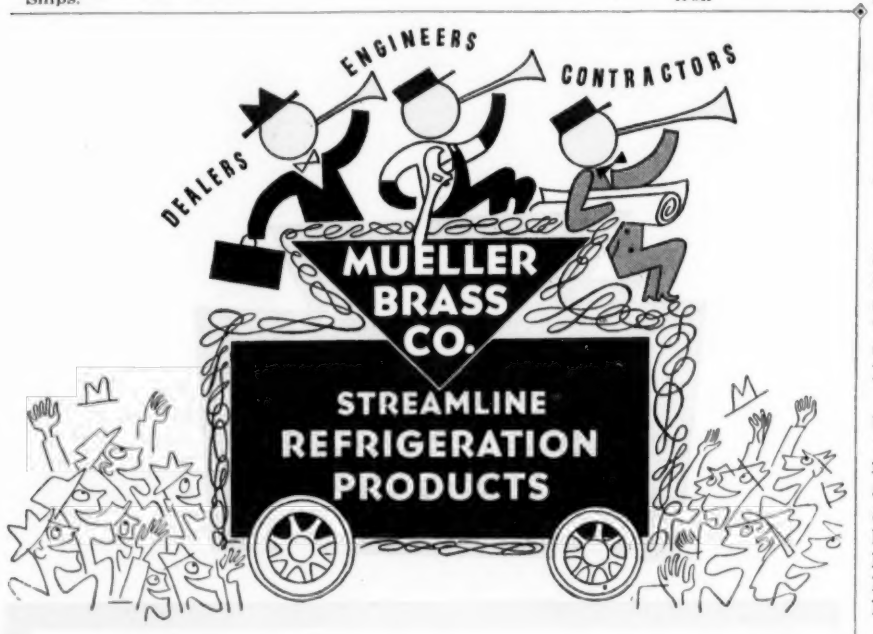
It was also announced by Tracey that the most complete promotional program the company has ever undertaken for room air conditioners will herald Mitchell's 1951 line.

Ward, Sears Prices Up--

(Concluded from Page 1, Column 5)

8.5-ft. model with "rust resistant" finish on the shelves is priced at $219.75. A former 8.5-ft. model with stainless steel shelf finish and other features which are missing from the new box sold for $249.75.

Ward's has priced washing machines 8 to 14% higher, gas ranges are up 7 to 18%. Refrigerator models, new in Ward's June book, are $10 to $25 higher in the latest catalog.



IT PAYS to climb on the MUELLER BRASS CO. band wagon for . . .

- A full and complete quality line of protectively packaged refrigeration driers, valves, fittings and accessories—stocked and sold by your refrigeration wholesaler.
- Complete manufacturing facilities—from raw material to delivered product—under the strict control of Mueller Brass Co. craftsmen, technicians and engineers.
- A large, well-trained force of sales and field engineers to coordinate the laboratory and manufacturing facilities of Mueller Brass Co. with your needs.

51-A
DRIERS AND FILTERS
VALVES
Write for catalog R-150 describing complete line of STREAMLINE refrigeration products.
REFRIGERATION PRODUCTS
WROUGHT COPPER FITTINGS
LIQUID INDICATORS
FLARE FITTINGS
STREAMLINE refrigeration products are individual and multiple packaged for complete protection.

MUELLER BRASS CO., PORT HURON 10, MICHIGAN

November Dollar Sales of Refrigeration Equipment, Appliance Wholesalers Top 1949 But Drop Under Totals for October

WASHINGTON, D. C.—November dollar sales of refrigeration equipment and parts wholesalers advanced 22% over the same month of 1949 but were 1% under October, 1950, according to the Bureau of the Census.

Sales of wholesalers of appliances and specialties in November gained 18% compared with a year ago and declined 17% from October. For the first 11 months of 1950, equipment wholesalers' sales increased 40% over the like 1949 period; those of appliance wholesalers were up 24%.

Inventories of equipment wholesalers at the end of November were 21% higher than at the end of the same month of 1949 and 3% above the Oct. 31 level. Compared with November, 1949, inventories of appliance wholesalers increased 60%; compared with October, they gained 25%.

Sales in November by all types of wholesalers reporting to the bureau declined seasonally 3% below the previous month but gained 16% over November a year ago. Cumulative sales for the first 11 months of 1950 were 14% above the corresponding period of 1949.

Total wholesalers' inventories at the end of November rose 4% above the Oct. 31 level and 18% over the Nov. 30, 1949, level.

SALES

Kind of Business and Geographic Division	Per Cent Change Nov. 1950 from Nov. 1949	Nov. 1950 from Oct. 1950	11 Mos. 1950 from 11 Mos. 1949	Nov. 1950 Panel No. of Firms Reporting	Reported Dollar Values (add 000)
Appliances and specialties wholesalers	+18	—17	+40	111	31,350
New England	+74	— 3	+67	13	2,474
Middle Atlantic	+ 1	—17	+33	26	13,789
East North Central	+61	— 8	+70	18	3,571
West North Central	+36	—18	+31	12	2,643
South Atlantic	+38	—24	+39	16	3,805
South Central	+ 1	—27	+20	9	1,233
Mountain	+40	— 7	+54	7	1,150
Pacific	+ 2	—23	+53	10	2,685
Refrigeration equipment, parts (com'l)	+22	— 1	+24	30	1,317
Middle Atlantic	+32	— 6	+26	6	283
East North Central	+27	— 2	+22	6	204
South Atlantic	—13	—11	+24	6	260
Pacific	+30	—10	+18	5	173

INVENTORY, END-OF-MONTH (AT COST)

Kind of Business and Geographic Division	Per Cent Change Nov. 1950 from Nov. 1949	Nov. 1950 from Oct. 1950	Nov. 1950 Panel No. of Firms Reporting	Reported Dollar Values (add 000)
Appliances and specialties wholesalers	+60	+25	85	24,992
New England	+54	+22	10	1,128
Middle Atlantic	+72	+22	16	7,703
East North Central	+67	+11	13	2,389
West North Central	+67	+30	10	4,493
South Atlantic	+30	+14	15	3,081
South Central	+65	+25	7	2,259
Mountain	+28	+23	7	1,386
Pacific	+72	+65	7	2,553
Refrigeration equipment, parts (com'l)	+21	+ 3	21	2,697
Middle Atlantic	*	*	*	*
East North Central	*	*	*	*
South Atlantic	+18	— 3	5	659
Pacific	+25	+ 5	5	558

*Insufficient data to show separately.

Reco Announces Plans To Expand Facilities At Emporia, Va. Plant

PHILADELPHIA — Expansion of Reco's manufacturing facilities at Emporia, Va., were announced recently by the Reco Products division of Refrigeration Engineering Corp. here.

The announcement said that increased demand for Reco products has decided the management to utilize all possible facilities of the Emporia plant and in the near future to expand by adding additional facilities on the 10-acre tract.

The plans for expansion include addition of kiln drying facilities, and more lumber handling equipment.

The plant will turn out Reco-Fab Frosti-Vault walk-in coolers, hardening rooms, pre-fabricated freezing tunnels, frozen stick novelty equipment, ice plant components, and junior ice making plants.

Headquarters offices will remain in Philadelphia, the company said.

The Emporia plant, which was established in early June, 1950, is located about 60 miles south of Richmond on highway 301. It is a modern masonry one-story building with private rail siding for 10 cars. A portion of the plant's facilities are already being used for defense production.

New Toronto Appliance Store

TORONTO, Ont., Can.—W. E. Green has opened the Bill Green Appliance Store at 292 Coxwell Ave. here. He has been in the appliance business for 25 years.

Templin Quits Assn. Post In Calif. To Join Baker Engineering Corp.

LOS ANGELES—Neal S. Templin has announced his resignation as executive secretary of the Refrigeration and Air Conditioning Contractors Association of Southern California and of the Refrigeration Manufacturers Association of Southern California.

Templin resigned to become associated with Baker Engineering Corp., here, which was recently appointed a prime distributor in Southern California for Baker air conditioning and refrigeration products.

At the same time, Don Beck, president of the Refrigeration and Air Conditioning Contractors Association of Southern California, announced the appointment of Ralph M. Westcott as acting executive secretary for the association, succeeding Templin.

Westcott is a consulting engineer, specializing in water use and quality control for heat exchange equipment and is widely known in the refrigeration and air conditioning industry, having published a number of technical papers in trade publications.

He is a member of the American Society of Refrigerating Engineers, the American Waterworks Association, the National Association of Corrosion Engineers, and the National Association of Practical Refrigerating Engineers.

Westcott will continue his activities as a consulting engineer, being employed by the association as its executive head on a part time basis.

Offices of the association have been moved to 1700 S. Main St., Los Angeles 15, Calif. The telephone number is Prospect 9485.

Templin has been executive secretary of the two associations since 1946 and has been in the refrigeration and air conditioning business since 1922 when he started to work for the York California Construction Co. in San Francisco. That company later merged into the York Corp., in whose employ Templin remained until becoming affiliated with the two trade associations.

Haslam Elected To Worthington Board

HARRISON, N. J. — Robert T. Haslam has been elected to the board of directors of Worthington Pump & Machinery Corp., it was announced by H. C. Ramsey, president.

Haslam was, until recently, a vice president and director of Standard Oil Co. (New Jersey). A director and member of the executive committee of Ethyl Corp., he also is a member of the Corporation of Massachusetts Institute of Technology.

Tropical Cafe Air Conditions

CORAL GABLES, Fla. — Tropical Cafeteria, a new, air conditioned eating place seating approximately 200 persons, has just opened at Galiano and Valencia Sts.

JUST ASK US!

Turn to "What's New" Page for useful information on new products.

Norton Acquires Tressler Practice and Laboratory

WESTPORT, Conn.—Karl B. Norton, long active in the food industry, has taken over the consulting practice and laboratory of Dr. Donald K. Tressler here.

Norton, who was associated with Dr. Tressler during the early development of frozen foods, continued in that field for many years with General Foods Corp., and later with Standard Brands, Inc., as production manager of frozen fruits and vegetables.

Norton's previous experience was in the chemical manufacturing field with the Allied Chemical Dye Corp.

Doremus To Tell Detroit ASRE About Low Temperature Design

DETROIT — "Low Temperature Design, Theory, and Applications" will be discussed by R. C. Doremus, chief engineer of the Detroit Ice Machine Co., before the Detroit section of the American Society of Refrigerating Engineers at 8 p.m. Monday, Feb. 5, at the Rackham Bldg. here.

With foolproof Cross-Flo, you can count on prevention of refrigerant control freeze-ups even in lowest temperature installations. Truly the 100% answer to an ideal heavy-duty drier-filter.
LEADING WHOLESALERS EVERYWHERE.
Literature and prices on request.
REMCO INCORPORATED ZELIENOPLE, PA.

Airtemp Representatives Hear About Products, Sales Program for '51

DAYTON—District representatives of Airtemp Div., Chrysler Corp., held a three-day business conference with factory executives recently at the home office here, where the 1951 sales program was outlined and new products were announced.

The new products include an 11-ton packaged air conditioner, with a cooling capacity of 132,000 B.t.u.; a small, compact electric dehumidifier; and ¾-hp. and 1-hp. window-type room air conditioners, with cooling capacities of 8,200 and 10,100 B.t.u., respectively.

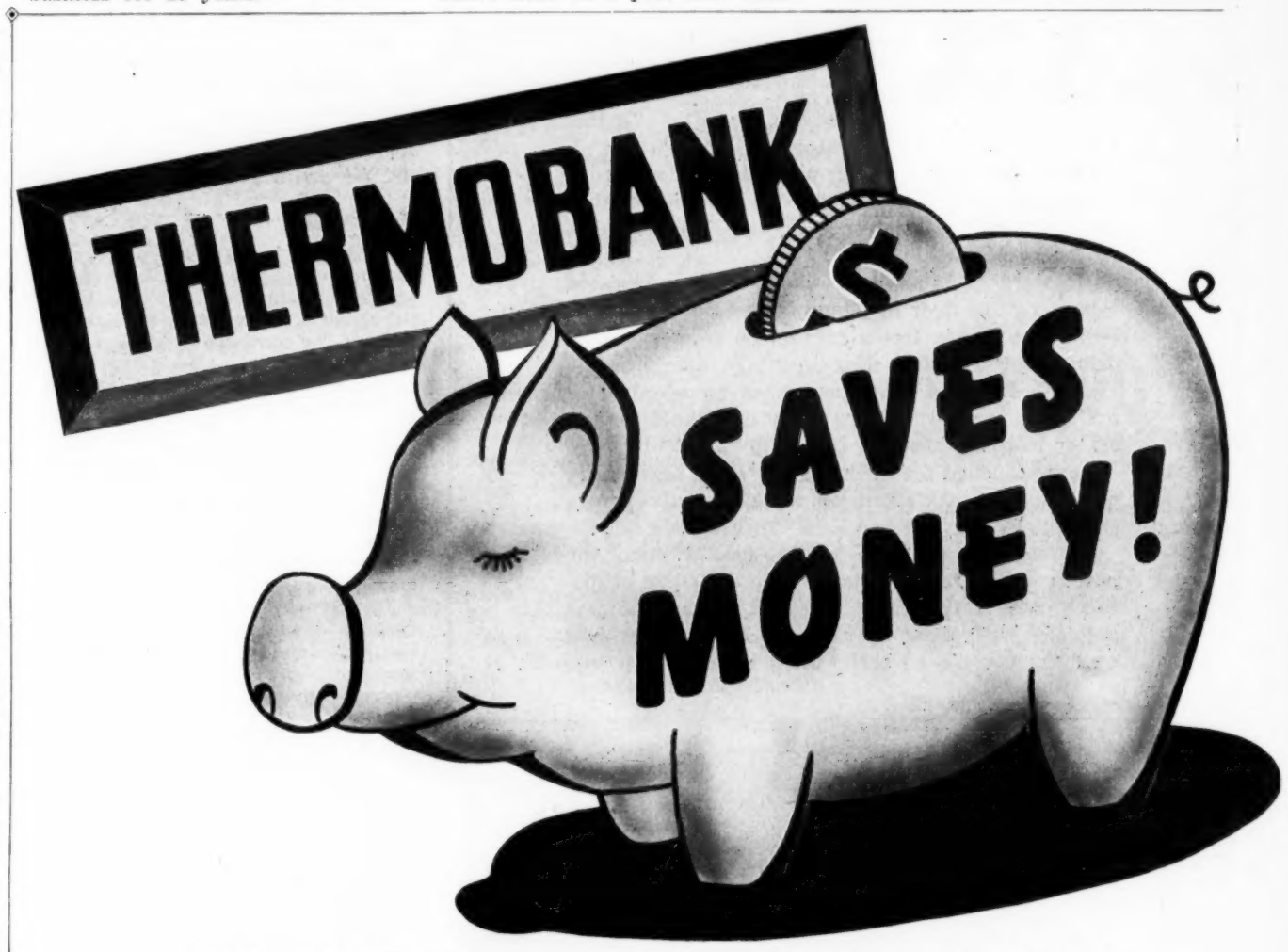
Thirty-six representatives from 15 Airtemp regions throughout the nation were told, in detail, the division's 1951 selling plans, which included how the field force best can help dealers in solving any problems which may arise from present conditions.

C. E. Buchholzer, president, and C. S. Stackpole, vice president and general sales manager, presided at the conference. Other factory executives who participated in the discussions were J. F. Knoff, assistant sales manager; M. T. Bard, director of national accounts; M. J. Leonard, director of heating sales; W. B. Magill, advertising manager; and J. G. Kehoe, supervisor of sales promotion.

Capital District Chapter of ASHVE Formed In Albany, N.Y.

ALBANY, N. Y.—Lester T. Avery, president of the American Society of Heating and Ventilating Engineers, presented a charter to the newly-organized Capital District Chapter at a recent meeting at Panetta's Restaurant.

Officers of the chapter are: President, R. B. Taylor, Buffalo Forge Co. & Buffalo Pumps, Inc., and treasurer, N. Y. Burrill, Winthrop-Stearns, Inc. C. D. Cross, manager of Johnson Service Co., was chairman.



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Report on the ASRE Domestic Refrigerator Conference

Part I: Door-Opening Tests . . .

First part of the discussion at the Domestic Refrigerator Engineering Conference at the ASRE meeting centered upon the general subject of "Laboratory Simulation of Refrigerator Home Use."

Basis of the discussion was the paper by that title authored by Milton Kalischer and G. S. McCloy of Westinghouse Electric Corp., which was published in the November, 1950, issue of *Refrigeration Engineering*. Following are some of the comments:

Laboratory tests should simulate unusual conditions—such as high humidities—rather than just average conditions, said D. H. Reeves of Norge, because the bulk of field complaints result from "unusual conditions."

For example, 100 door openings per day may be way above average conditions, but might be a proper test basis. Reeves also recommended "loads" of several small packages of food, rather than such big single items as watermelons.

While General Electric Co. is still using compressor calorimeter and not load performance tests, said H. H. Bixler of that company, G-E more and more is using tests simulating field conditions. Refrigeration load tests and actual kitchen installation tests are used to determine if the capacities, motor windings, and condenser temperatures are in line with what they should be. Kitchen tests also are used to evaluate new features.

Tests are still made under 90° ambient conditions, but Bixler said studies have shown that this is a high ambient for the ordinary kitchen.

"Grouping" of door openings is important, he stated, particularly with reference to checking of automatic defrosting.

Servel's severe test is the so-called "India" test in which the refrigerator is allowed to stabilize in a 110° F. room with water in the load trays allowed to reach the 110° F. temperature also. Measurement is then made of how long it takes to freeze ice.

Howard Chamberlain of Philco advocated "grouping" of door openings in tests, pointing out how much faster frost build-up on evaporators is demonstrated where door openings are grouped.

Reeves raised the question as to whether or not tests that demonstrated a household refrigerator to be satisfactory in the 90° ambient (more or less standard for such tests) would necessarily mean that the refrigerator would be satisfactory at 110° F.

Kalischer said that would depend upon the nature of the tests. For an across-the-top evaporator type refrigerator, he said, a test at 90° ambient with door openings and simulated field conditions would be better than a closed-door test at 110° F.

Part II: Defrosting, Food Loads . . .

Part II of the Domestic Refrigerator Engineering Conference covered "other tests of complete refrigerators" and brought to light new procedures covering tests of automatic defrosting systems, icing performance, and food load performance tests, among others. Details of this part of the conference are reported in stories on this and the facing page.

Doubts Mfrs. Will Adopt 'Consumer Standards'

NEW YORK CITY—There's little chance of the adoption of so-called "consumer standards" for refrigerators and other major electrical appliances, engineers attending the Domestic Refrigerator Conference during the recent annual ASRE meeting here, were told by W. M. Timmerman, commercial engineer of the household refrigerator division, General Electric Co.

Timmerman, who has been one of the most active engineers in standards work for several years, said that there has been some discussion of "more performance and durability standards, something like the AGA has promoted on gas appliances." However, he said that there are a number of good reasons why major electrical appliance manufacturers wouldn't be likely to go ahead with such a program.

The gas appliance field, he said, was plagued by a number of low quality producers, and action by the AGA was necessary to rectify this situation and assure that gas appliances could be competitive with their electric counterparts.

QUALITY OUTPUT FORCED

In the electric appliance field, the factors of long warranties and the products being sold directly under the manufacturers name have tended to force the continuance of high quality production.

"Minimum performance standards on durability and performance would be meaningless in the electrical appliance field because they would be far below the standards of products now being made, and might produce the reverse of their intended effect by encouraging some low quality producers to enter the field," Timmerman said.

Timmerman said that with reference to consumer information data the industry offered comprehensive specifications sheets, with shelf area, interior volumes, and ice tray capacities, determined by the Nema standards for rating household mechanical refrigerators. He agreed, however, that these standards probably needed revising in light of recent product developments.

It may also be that some standards are needed for home freezers, particularly in the matter of specifying "pounds of food frozen," but little headway has been made along these lines.

Timmerman said that the Underwriters' Laboratories tests handled the matter of safety in appliances satisfactorily, and declared that a more extensive use of Underwriters' Laboratories Re-examination Service marker on listed appliances would be desirable.

FIELD DATA IMPORTANT

"With this thought in mind, a test procedure was so outlined based both on field experience in past years and what was thought to be a good test from a practical standpoint to develop a satisfactory refrigerator. Any test as such must be correlated with field experiences when arbitrarily used as a measure or guide for field performance. The test used is felt to be severe, but intelligent use of the results have proven to give very good customer satisfaction."

Following is a brief description of the procedure used as in the standard Crosley food load pull-down and change test:

The refrigerator is turned off and "soaked" with the cabinet door open in a standard NEMA test room for 24 hours prior to the start of the test at three ambients, 110° F., 90° F., and 70° F. At the start of the soaking period cans of water at whatever ambient temperature is being tested are equally distributed on the shelves and in the crispers of the food storage compartment on the basis of 4 lbs. of water for each cubic foot of NEMA rated volume.

After the 24-hour soaking period and just prior to starting the compressor, the evaporator is loaded with four 2-lb. trays of water at the ambient temperature. The refrigerator temperature control is set at the coldest position in 110° F. and 90° F. room temperatures and at normal for the 70° F. room condition.

During the first 24-hour (pull-down) period, cabinet air temperatures, evaporator air temperatures, kilowatt hour consumption, condenser temperature, and other compressor operational characteristics are noted and recorded. Particular attention is paid to overload cut-outs.

THE 'CHANGE' PERIOD

The next 24-hour period (change) consists of changing one sixth of the load in each compartment three times per day. The evaporator change is two 2-lb. trays of water at each food load change during this second 24-hour period. Operational characteristics are noted and recorded as before.

On new designs the change procedure is repeated the second and third days to find any change in temperature balance. This means that the total elapsed time is four 24-hour periods of testing.

The above data is plotted in curve form and temperature trends are studied to determine design factors.

This procedure is followed religiously and certainly is considered one of the most important tests in the design of the domestic refrigerator, Cochran stated.

Food Load Pull-Down, Change Test Described

"Food load performance testing is a subject in the household refrigerator industry that is very controversial and extremely arbitrary from a procedure standpoint," declared John Cochran of Crosley. "I firmly believe that after hearing the different comments from you this afternoon that there are as many different kinds of load tests as there are manufacturers of domestic refrigerators.

"Tests of this nature can be made too severe, resulting in increased expense in cabinet construction and unit capacity, while on the other hand, tests can be used which certainly will result in possible customer complaints, particularly in the area of Miami, New Orleans, Houston, and Galveston. The primary purpose of any load test is to give customer satisfaction.

Humidity Room Test Procedure Outlined

The setup and procedures for humidity room operation tests were described by R. W. Ayres of Seeger Refrigerator Co.

Test room designed to provide temperature and humidity variations measures 8 x 12 x 10 ft., with electric heating elements and humidity changes through steam nozzles. Low velocity air movement is provided to assure even air flow.

Dry bulb is kept at 100° F. From a starting relative humidity of 70% the relative humidity is increased to a point where condensation appears and is continued until there is complete condensation. Thus cabinet weaknesses are shown up. Temperature and humidity control is by means of a Bristol electronic controller recorder.

Temperatures of 42° F. are held in refrigerators being tested, and 0° F. in freezers.

Relative humidity is increased 2 to 4% at a time, a period of stabilization following. As condensation shows up, it is outlined on the cabinet with a crayon.

In another special test cabinet for hardware and parts, conditions of 110° F. dry bulb with 100% relative humidity are maintained. Hardware and parts are tested for 30 days under these conditions, checks being made for adhesion, rusting, and resistance to scratching.

How Effect of Frost on Performance Is Checked

"When the familiar old 'U' type evaporator is used to cool a refrigerator, very little concern is given to the effect frost accumulation may have upon the performance of the refrigerator," said Ralph Benson of Crosley.

"When a horizontal plate type of evaporator is used, however, it is an entirely different matter, and very careful attention must be given to the effect of frost accumulations on the evaporator surfaces. The spaces surrounding the evaporator become very important and very critical. Since the volume of these spaces must be deducted from the NEMA rated capacity of the refrigerator, attempts are usually made to keep these spaces as small as

(Concluded on next page)

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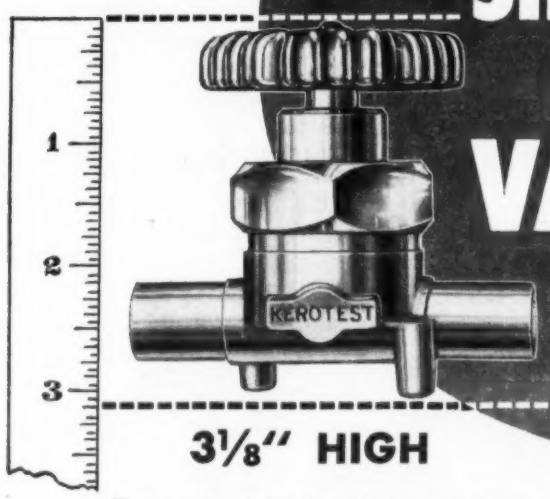

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Test on Effect of Evaporator Frost

(Concluded from preceding page)

possible and yet large enough for air to circulate sufficiently through them. For it is only by means of air circulation through these narrow spaces that proper refrigerator temperatures can be maintained.

"If these narrow spaces become filled with frost or even partially filled with frost," Benson said, "air circulation is interfered with and refrigeration temperatures are seriously affected. Frost accumulation, therefore, not only retards heat transfer, as in the case of 'U' evaporators, but also may block or seriously interfere with vital air circulation in the case of horizontal plate types of evaporators.

"After the frost has accumulated, little attention is given to melting it off in the case of the 'U' evaporators, but in the case of horizontal plate evaporators, it is amazing sometimes how the defrost water can run down the liner walls, drip into the food compartment, and go just about everywhere except into the places provided for it, not to mention the long time required to do it sometimes.

PROCEDURE DESCRIBED

"In view of all this, we at Crosley felt that some kind of a test should be devised to check refrigerator performance with varying amounts of frost accumulation, and also to test its defrosting characteristics.

"The procedure which is now used as standard procedure for this test is as follows:"

1. The refrigerator is set up in a test room having 100° air temperature and 50% r.h.. A bare plate food load check is first made as follows:

A standard food load, 4 lbs. of water in tin cans per cubic foot of rated capacity, is installed in the refrigerator. The refrigerator is then stabilized over the first day of the test with the control set at coldest setting.

2. On the second and third days of the test food load changes are made in accordance with standard food load test procedure. The results of the food load changes are plotted in terms of cabinet temperature versus time, and the first curve to be plotted is for bare plate operation. This is now followed with a check with 48 hours of frost accumulation as follows:

3. On the fourth and fifth days of the test frost is deposited on the evaporator by the following procedure: One-foot-square cotton cloths soaked in water are placed in the refrigerator in the morning and exchanged for freshly wetted ones at 12 noon and at 4 p.m.

DOOR OPENED HOURLY

At hourly intervals between cloth changes the refrigerator door is opened for 15 seconds. The evaporator door is also opened for 15 seconds, each time the cloths are changed.

Four clothes are used for 6 to 7-cu. ft. refrigerators.

Five cloths are used for 8 to 9-cu. ft. refrigerators.

Six cloths are used for 10 to 11-cu. ft. refrigerators.

4. On the sixth day of the test the standard chilled food load is put back into the refrigerator, allowed to stabilize as on the first day.

5. On the seventh and eighth days standard food load changes are made again and the results plotted. This provides a curve for operation with 48 hours of frost accumulation to compare with the previously obtained curve for bare plate operation.

Photographs are also taken of the evaporator at this point to provide a record showing the amount and location of frost deposits.

"The procedure is then repeated to provide performance curves, and photographs for 96 hours of frost accumulation," Benson declared. "This curve usually shows that cabinet temperatures are getting seriously out of line, and that it is useless to continue the test. However, if in some cases it may be desirable to check performance with still more frost, the procedure can be repeated to provide performance curves for 144 hours or 192 hours of frost accumulation.

"At the conclusion of the test the evaporator is defrosted with ice trays of warm water. The time required to complete the defrosting operation is recorded, and close observations are made of the melting frost, and ice and dripping defrost water.

"We have found this procedure to be quite satisfactory, and the test to be very useful in checking refrigerator performance with varying amounts of frost on the evaporator," Benson concluded.

Odor Test Simulates Refrigerator Practice

Odor tests, as described by R. H. Kelly of General Electric Co., are chiefly on component parts that go into the cabinet interior of electric refrigerators. Some parts release volatile substances which give off odors or transfer to foods affecting taste.

In testing, the sample is placed in a container with a beaker of water and unsalted piece of butter. This simulates actual refrigerator practice. It is then checked by human sensory perception to see if there has been transfer of odor or contamination of taste.

Tests are also made on samples placed in cabinets, the check being made to see whether odor levels are at a predetermined point.

Testing of Automatically Defrosting Refrigerators

The testing of automatically defrosting refrigerators logically falls into three major phases, was the theme developed by Tom Simon of Crosley.

First, there is the problem of simulating in the laboratory the actual usage conditions, such as food loading and frost buildup, that the defrosting system will encounter and must handle; and then,

Second, there are the actual laboratory defrosting tests run to analyze the innumerable operational characteristics of various types of defrosting methods and modifications leading toward improvements; and finally,

Third, there are the extensive home economics and field tests in carefully selected homes as a final analysis and proof check on the simulated laboratory tests and developments. In addition, at this time, comprehensive accelerated laboratory life tests on the complete refrigerator and all necessary components are run to further prove the design.

4 VARIABLES INVOLVED

The problem of simulating the usage conditions for laboratory testing resolves itself into about four variables, Simon said.

First, the most important is the frost buildup on the evaporator plates. This can be produced by frequent door openings in a high humidity atmosphere, or by artificial introduction of moisture through the use of water vapor generators such as a warmed pan of water with cotton towel wick feeding from it, or by the frequent introduction into the refrigerator of cotton towels soaked in warm water.

The amount of water to be collected on the evaporator plates varies, of course, with the type and size of refrigerator, but as an example, good correlation with usage has been achieved on 9-ft. to 10-ft. size horizontal evaporator type refrigerators using approximately 5 fluid ounces of frost accumulation as typical of "average heavy" buildup per day and approximately double that as typical of "severe" loading per day.

Two other variables to be considered are the amount of food stored in the evaporator and the setting of the temperature control. These two influence to some extent the amount of heat that will be required to achieve complete defrosting.

A final consideration is the factor of wattage variation of heaters supplying the extra heat necessary to achieve rapid defrosting. Since there is a tolerance on resistance valves of heaters and since field voltage conditions can vary tremendously, there is an appreciable spread of heater wattages to be allowed for.

DEFROSTING TEST FACTORS

After the simulation of field conditions has been satisfactorily established, the actual defrosting tests can begin in the laboratory. Generally these tests are being run for the purpose of developing or improving a completely automatic defrosting system so usually much meticulous information is desired to enable thorough analysis. These are some of the many factors to be considered in defrosting tests.

First, of course, is the necessary rapid, complete, and efficient removal of frost. Fast reading or recording potentiometers are used to determine thermocouple temperatures throughout all the affected parts to determine the uniformity of warm-up. Visual examinations are also made during the course of the test as a supplement to the temperature readings.

Probably next in importance is the analysis of frozen food temperature rise.

The water collection and disposal system must be thoroughly checked to be sure that it cannot become iceclogged in any parts adjacent to the evaporator and to be equally sure that the evaporation rate of the defrost water is great enough to handle all field conditions. Evaporation tests must be run in temperature and humidity controlled ambients.

Another important phase is the testing of the necessary safety devices to insure their satisfactory operation. This usually means the correlation of temperatures and/or currents with the desired safety action.

Compressor and relay characteristics must be analyzed also to insure satisfactory operation during the entire defrosting cycle.

A final factor that can be investigated is the cost of the defrosting action. This normally takes the form of a NEMA test during which the defrosting action is caused to occur and the kwh./24 hrs. consumed can be compared to similar standard non-defrosting NEMA Type tests with both bare and iced evaporators.

THE PROVING PROGRAM

After the laboratory analysis and development is completed, a proving program is put into action. This involves the following techniques:

Exact models are built and installed in locations selected to represent the most probable trouble spots. Since this is a frost removal problem, locations in the Gulf States area are logical and have proven most satisfactory. The models are used under severe home conditions and carefully watched for undesirable operational characteristics.

Other exact models are given to the home economists for extensive testing to determine the effect of defrosting on food palatability and to analyze other features of operation from the housewife's viewpoint.

And other exact models are set up in the laboratory on various forms of accelerated life tests. Also all separate components, such as switches, timers, heaters, etc., are put on standard accelerated life tests of types familiar to you all.

The results of the field and life tests are used to improve the over-all design wherever possible following which the product is released to production.

speaking about

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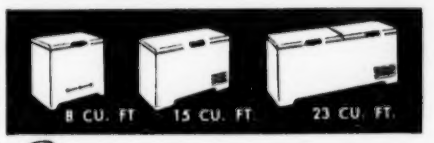

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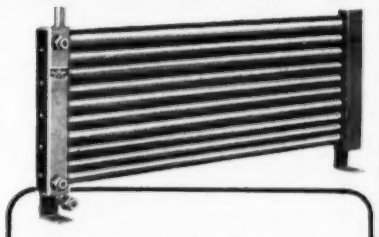

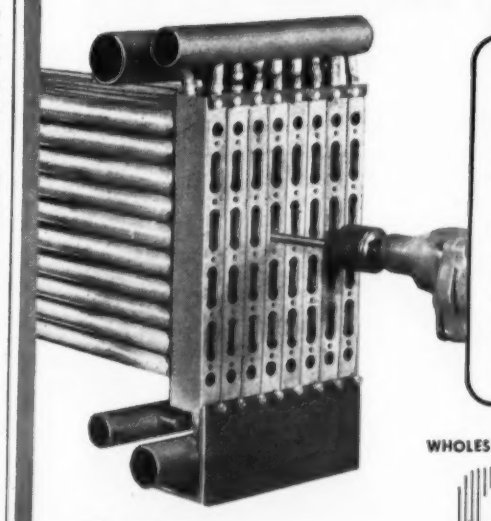

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INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)

drive Cadillacs to work reveals that of every five possibly one is happy, and two think they're happy. One isn't sure, and another doesn't care. Same proportion among Ford and Chevie drivers."—HARLAN MILLER in the *Des Moines Register*.

Daffy Definitions

Hobby: Hard work you wouldn't do for a living.

Salary: A sum of money approximately equal to half of what you're worth, and one-third as much as your wife wants.

Sense of Humor: The oil of life's engine. Without it, human machinery creaks and groans. No lot is so hard, no aspect is so grim, that doesn't unlax after a hearty laugh.

Out of the Mailbag

"Letters to the Editor" columns of paid-circulation newspapers are interesting and rewarding reading. Usually such letters are serious. However, once in awhile a hilarious gem of high comedy appears, such as this one:

"Editor:

"Pathetically you bleated that nobody ever had seen the famous Hindu rope trick.

"I have seen it!

"Years ago, while serving with Her Majesty's Lancers, I was stationed at a small garrison in the hill country of Buna-Kanga Province. One evening, while several of my fellow officers and I were enjoying our evening relaxation on the veranda of the Pukka-Pukka Pig Sticking and Polo Club, polishing off our tenth or twelfth round of gin and tonic, and old fakir came down the road.

"Thinking to have a spot of fun with the old fellow, we tossed him a handful of sahibs, and jokingly asked him to perform the rope trick.

"What was our amazement when he opened a wicker basket, drew out a coil of 1½-in. line and tossed it into the air. It stood upright, its top end being lost in a sort of haze 20 ft. or more above the ground.

"A small lad, who the fakir said was his grandson, but who I really think was a nephew on his wife's side, shinneyed up the rope and reaching the top, disappeared in the haze.

"Not quite believing our eyes, we challenged the fakir, whereupon he dared one of us to climb the rope, warning us that if one of us did, he, too, would disappear.

"I accepted the challenge, and easily climbed to the top. The rope was as rigid as a steel pole.

"But the fakir was right. I did disappear, and I've never been seen or heard from since that day.

"Shortly after that the General Staff issued orders forbidding any member of the Lancers from participating in the rope trick.

"They found they were losing so darned many lancers that way."

ARTHROYD

Thoughtful Letters

More typical and representative are these letters:

"The principle of equal rights now is interpreted to mean that the haves should be forced to provide a living for the havenots. The intelligent should be retarded to keep pace with the dull. The ambitious should not better themselves too much, for then they would not be genuine, government approved 'common men.'

"America became a great country not through the belief that being a 'common man' is the goal of every citizen, but by offering the opportunity for members of every class to better themselves through their own initiative and intelligence. As long as Americans are satisfied with mediocrity, America's government will also be mediocre.

"For hundreds of years, dictators have used the dissatisfied masses to gain control of governments. Formerly, dicfators rose to power only by revolution, but the United States Constitution offers a less bloody method through the use of voting blocs marshaled by public bribes and the power of labor bosses.

"When the 'party of the people' becomes firmly entrenched, the needs and wants of the people are completely forgotten by the dictators. Examples of this are Cromwell of England, Napoleon of France, and Stalin of Russia.

"The habardasher that made good is employing his old ruse with only a minimum of variation."

JOHN D. MCQUIGG

Omaha, Neb.

Editor:

I have just read the editorial in your December issue entitled "Sensible Food Hoarding Is Patriotic Now."

I realize, of course, that home freezers are today occupying a leading place in your editorial and advertising content; but in an editorial of this sort, why overlook completely the nation's 11,000 locker plants with more than six million lockers capable of holding a huge amount of frozen food. Urban locker plants are filling up rapidly and are definite proof of the fact that people once more are very "food storage conscious." Locker plants did a good job of food storage during World War II as you well know, and they can do it again.

R. R. FARQUHAR

How Can You Combat Rising Prices?

When your customer agrees with you that you are selling a nice widget, but the price is too high, where do you go from there?

That problem pops up more often than any other to salesmen in all lines of business. And especially now.

Not too long ago a group of sales executives got together to discuss this problem and tried to figure out how to solve it. Peculiarly, not one of them thought of the sharp pencil.

This was the conference's consensus of opinion: when the customer yelps about price, he is really seeking more convincing assurance that your product is worth what you are demanding for it!

He *can* be convinced that it is worth the money you ask, and there are several ways to do it—depending on the type of product and the needs of the customer.

Remarkable 'Bull Session'

Here are some more-or-less direct quotations from these sales executives:

"We try to teach our salesmen to use finesse and tact tc avoid arguments. Naturally, one of the best ways to avoid arguments in rebutting objections is to use the commonly known 'Yes, but . . .' technique.

"As you know, this is where the salesman listens to the customer's objection, restates the objection, and sympathizes with the customer. He then uses the conjunction 'But, however,' etc., and proceeds to point out to the customer the answer to the objection.

"In addition to using a smooth method in answering objections, it is necessary to use logic to overcome them. The logic we use to overcome the price objection is as follows: While our price is somewhat higher than that of our competitors, price takes on secondary importance if the product will move and turn over regularly at a reasonable markup.

"As soon as we get the dealer's agreement to this contention, then it only remains for us to convince him that the product will sell and turn over, giving him a good net profit compared with other products that he handles."

Distributor's Viewpoint

One distributor's sales manager offered this idea: "Our salesmen tell them (buyer's) that the cost of raw materials on current market plus cost of today's labor makes today's prices full value plus.

"The consumer is likely to pay the price if the merchandise is made attractive and desirable, and if he is confident that prices are not on the verge of collapse."

Another sales manager tells his salesmen to admit that prices are high and then add: "But there is a high profit possibility in our line. Here's how you can display and sell our product to its fullest advantage and increase your turnover and profits."

Industrial Selling Is Different

Fellow who directs sales of an "original equipment" part used in a consumer item uses this tack: "We attempt to sell our product as insurance for the purchaser. When a buyer purchases our item, he is providing himself with a quality part that not only enhances the quality of his finished goods but also guarantees consumer satisfaction—at least with the part he has purchased from us.

"We attempt to impress upon the price-conscious buyer that the very small price differential between our parts and lower-priced parts is the result of our furnishing him with the very best product he can get—one that is thoroughly inspected, backed by consumer and trade paper advertising, and that will enhance his own product by its use.

"We point out to him that in the long run, using a quality part will save him money. Since he is trying desperately to meet price competition at his level, he has at hand a device in our product for opening his buyers' eyes to the fact that he is not cutting corners in the parts he buys."

In a similar vein goes this argument: "We turn the price objection into an analysis of what the product will do for the buyer on a cost basis, breaking the cost down on a finished product (made by the purchaser).

"The salesmen have to arm themselves with comparative 1940 and 1950 prices. When there are differentials in price between our product and those of competitors, they know why.

"Increasing freight and tax costs are brought out in the open. Percentage cost in finished goods of the ingredients they sell becomes the final figure for comparison with competitive items, and in this way the cost differential is minimized compared with what the product will do."

A vice president tossed in this gem: "When prospects are convinced of value and price stability and are sold on the cost of being without our equipment, sales are made. We need more salesmen who know how to talk along these lines."

Forcing Competition To Be Truthful

Strategy of another sales organization is this: "Our suggestions to our salesmen are based on the following line of reasoning:

"We build a good product.

"It is adequately designed and properly constructed to do the job for which it is intended.

"We have done our level best to build it as inexpensively as is possible and have added no gross margins which are not within the necessities of our manufacturing operation.

"No matter how low a price may be cut, someone will always be found to quote a price still lower. You can't beat this type of competition.

"We stand behind our product and guarantee its effectiveness. Does the other fellow? Will he back it up in the years to come?

"This is effective in the majority of cases. Proper presentation of the equipment qualities and comparison of its cost with other accepted and qualified products usually clearly indicates that our price, after all, is in line and is based upon a fair margin which enables us to build our equipment without skimping and without reducing the effectiveness of its necessary quality."

Management Viewpoint

Here is how the Board Chairman of a prominent appliance manufacturing organization tries to solve the problem:

"It is up to our management to make certain that our prices are in line with competitors on standard items. However, the higher prices of our deluxe models are reasonable and justifiable, and will be acceptable when presented to the customer properly.

"It is up to the salesmen to sell on the basis of performance rather than price.

"There is only one way to meet a price objection, and that is to sell performance. And performance in our field now involves design, safety, stability, longevity, performance, convenience, the saving of time, money, effort, safeguarding health, etc. With all these benefits, price becomes a secondary factor."

Last Word

No prospect will object that "your price is too high" when you succeed in getting him to think in terms of the actual savings or increased profits which the purchase of your product will assure.

Prices are relative. Benefits are *real*.

Good salesmen aren't bothered by questions about prices. They turn all questions of this sort into reasons why the prospect should *buy now*.

They *educate* their customers.

Postscript

"Education is a companion which no misfortune can depress, no crime can destroy, no enemy can alienate, no despotism can enslave. At home a friend, abroad an introduction; in solitude a solace and in society an ornament. It chastens vice, it guides virtue, it gives, at once, grace and government to genius. Without it what is man? A splendid slave, a reasoning savage."—JOHN ADDISON.

Speak Up!

So English is your native tongue? Then you probably know that a stranger is a newcomer, a short story writer is a literary man, and an outfielder is a member of a baseball nine.

But live and learn! For an interesting segment of the population, a "stranger" is a car stolen at a distant point, a newcomer is a "blow-in," a "short-story writer" is a forger; and an "outfielder" is a thief who shies away from risky assignments.

What's more, "Coney Island" is the third-degree chamber. "To kiss the dog" is to face a victim while picking his pockets, and a "figary" is a quiet spot far from the madding crowd, and where mobsters can get together to exchange views and discuss the ways and means.

These definitions are found in a new book, DICTIONARY OF AMERICAN UNDERWORLD LINGO, which was compiled in a large state prison by a board of widely traveled convict-editors under the over-all direction of a prison chaplain. The result of their efforts is not only a definitive dictionary of the language of crime, but an encyclopedia of criminal practice and technique.

Grim humor characterizes the greater portion of the underworld's vocabulary. Thus, a hospital for the criminally insane is a "cackle factory." Spaghetti on the prison bill of fare is "lead pipe." Eavesdropping is "riding the E(a)rie." Heroin, smuggled into the prison despite the vigilance of the authorities, is "foolish powder." The perennial bread and water is "angel cake and wine."

Good reading, this.

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(See Ad, Page 16)

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BOTH FEET ON THE GROUND

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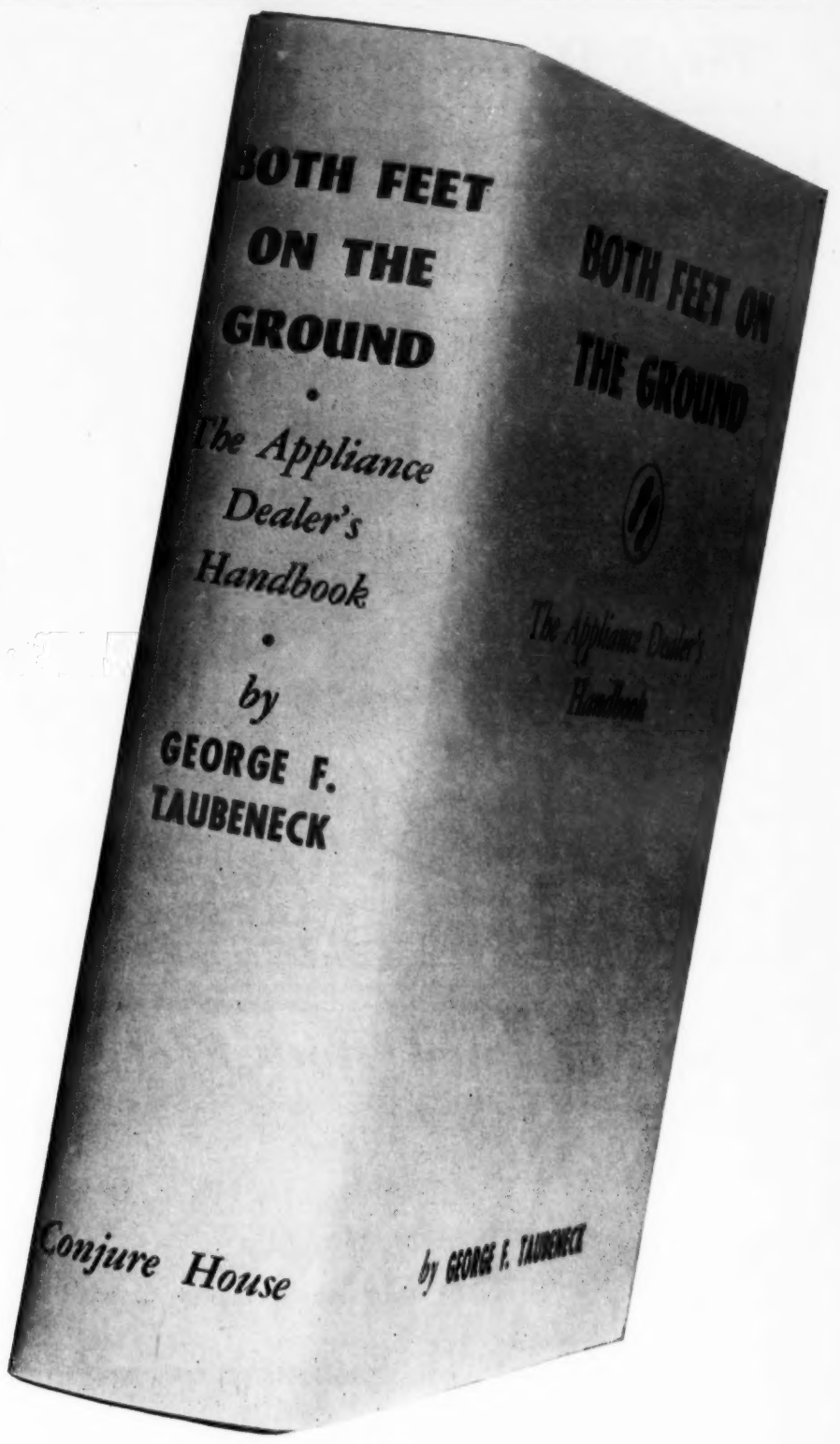

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No wonder "Both Feet On The Ground" is a complete guide book to the most profitable way to operate an appliance or specialty dealership! It is a weighted summary of the very best dollar-producing approaches to every dealer problem, right from selecting the franchise, to closing the books in black, at the end of the month. There isn't one aspect of running an appliance business that isn't treated in this Handbook. A convenient index makes it easy to answer any problem, large or small, with just a flick through the pages.

Anyone who hopes to become a better retailer can find, in this wonderful new book, basketsful of dollar-making ideas he can apply to his own business, in his own way.

Manufacturers and distributors, who rely on retail outlets for sales of your products, see an abundance of new ways to merchandise to your dealers, to create more demand for your particular refrigerators, ranges, washers, disposers, humidifiers, and freezers. See the business as retailers see it.

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YOU KNOW THE AUTHOR . . .

George F. Taubeneck for his brilliant books on specialty selling, salesmanship, and sales management. "One Foot In The Door," "It's A Great Life," and "The Marshal's Baton" still sell copy after copy every week.

Now, George submits perhaps his most important work, "Both Feet On The Ground" for use and study by our Industry.

His 20 years as Editor and Publisher of AIR CONDITIONING & REFRIGERATION NEWS eminently qualify him for the job of compiling such a Handbook, and the results are beyond our fondest hopes. In his work as reporter, editor, ambassador to the Industry, and champion of the businessman, literally thousands of hours have gone into his interviews and travels throughout the country, and the world. The wisdom and knowledge he picked up along the way are reflected in every one of his books.

"Both Feet On The Ground" renders at a time when such service is perhaps more sorely needed than ever before, because of credit restrictions, unique guidance to all of America's appliance and specialty dealers and the manufacturers and wholesalers who supply them. Taubeneck's insight and grasp of the core of every problem in retailing, as learned by and from men in the business all their lives, provide counsel and assurance to all concerned. In months like these, when we don't know from one day to the next, whether we'll be in a shooting war or a cold war, whether there will be oversupply or undersupply, or whether there will be credit restrictions or no credit restrictions, it pays every man concerned with the appliance and specialty business to be prepared for any conditions, favorable or not.

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Do You Have 'Both Feet On The Ground'?

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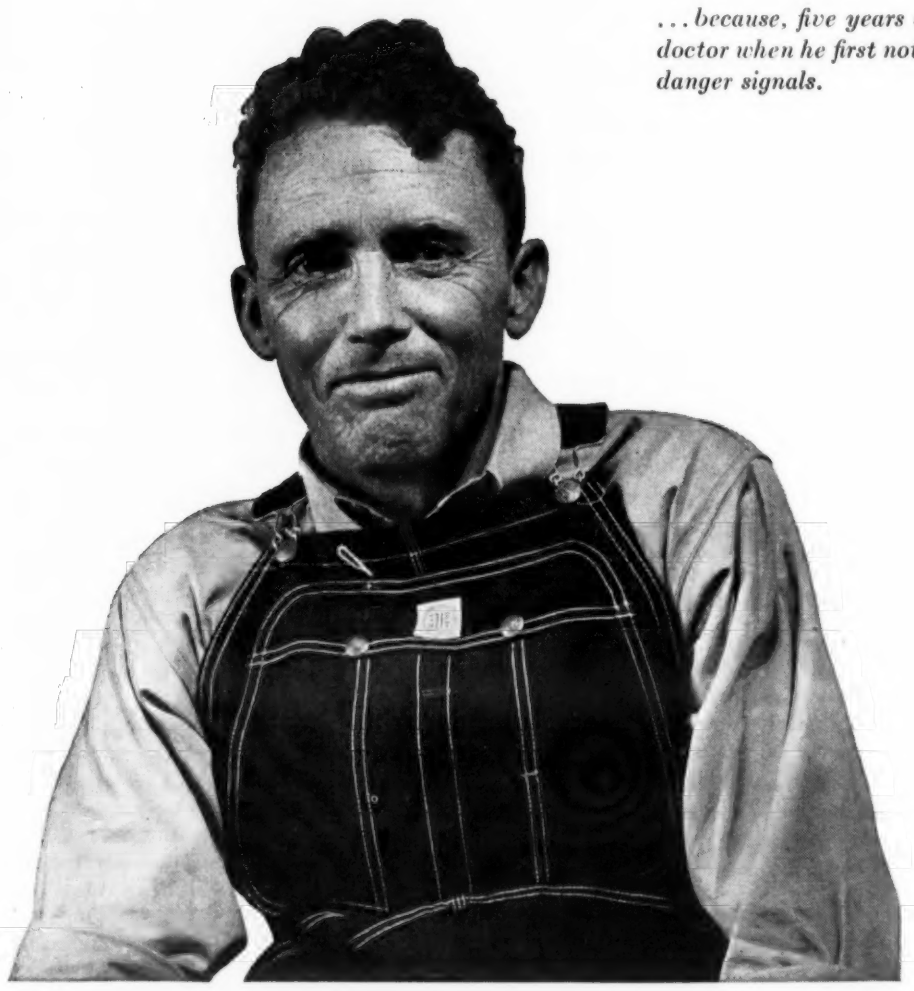
. . . because, five years ago, he went to his doctor when he first noticed one of cancer's danger signals.



Do you know the seven common danger signals that *may* mean cancer: (1) any sore that does not heal (2) a lump or thickening, in the breast or elsewhere (3) unusual bleeding or discharge (4) any change in a wart or mole (5) persistent indigestion or difficulty in swallowing (6) persistent hoarseness or cough (7) any change in normal bowel habits.

By showing Americans what they can do to protect themselves and their families against cancer, the American Cancer Society is saving thousands of lives *today*. By supporting science and medicine in the search for the causes and cures of cancer, the Society hopes to save countless more *tomorrow*. *Your* best insurance against cancer:—Make a habit of having regular periodic physical check-ups no matter how well you may *feel*. Learn the basic facts about cancer . . . Telephone the American Cancer Society office nearest you or address your letter to "Cancer" in care of your local Post Office.

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"I have always felt that whatever the Divine Providence permitted to occur I was not too proud to report. The people are not served by pussyfooting, or by that sort of journalism in which nobody will ask who is the editor of a paper or the writer of an article, and nobody will care."—*Charles A. Dana.*

America Can Hold Its Own

RECENT SUCCESSES of the Russians have filled many businessmen with gloom.

"What if Stalin wins?" they cry. "What if, despite all the aid we can send to Europe and Korea, he gobbles up all of Europe and most of Asia this year? What will happen to our economy? Won't our standard of living be doomed?"

For the sake of argument, let us examine the possibility that all Europe becomes part of Stalin's economic machine. What will happen to our foreign trade then?

Undoubtedly it will be different. We may have to indulge in some bartering ourselves. We may have to dig up some of the gold we've buried at Fort Knox and pass it around to some nations with whom we'd like to establish a sound basis for trading. The game may be played with different rules. But in any game of foreign trade, America holds the trump cards. We have the greatest internal trade in the world. We have the greatest industrial system in the world. We have the finest collection of raw materials in the world. And whereas in diplomacy we may lose our shirts, nobody has yet bested the Yankee trader over any period of time.

"But," say the pessimists, "Stalin will have slave labor. We can't compete and pay our high wages."

Nonsense. We've been competing with slave labor (Japan's) for instance, for years.

Wherever quality is a factor, our products push slave-labor-stuff right off the market, almost anywhere in the world. And not even Stalin will be able to get labor as cheaply as Japan did. The Japanese were unable to build and sell refrigerators in competition with American makes even in the Far East, where their prices were less than one third that charged for American makes. The same thing is true for motor cars. They go great on toys, and cheap textiles, but aren't so hot on engineered equipment.

"Yes," say the pessimists, "but the German scientists now in Russia are fine engineers. And when you give them all that slave labor. . . ."

Answer: Even with slave labor (the engineers aren't paid starvation wages, however, and the conquered "slaves" aren't engineers or even skilled mechanics) Stalin has two strikes on him. He has no great home market.

That's our ace-in-the-hole. Our home market is so vast, our demands so great, that we can get up tremendous production schedules just to supply America. Foreign markets, then, can be supplied with our products at prices already made extremely low because of the mass production required to take care of the home market.

This story is a familiar one to any export manager in the industry. All of them have seen how American specialty products beat out Japanese and the Germans in spite of price advantages, how they beat out the British in British Empire territory despite the home ties and the anti-American trade prejudice which existed before 1940.

In 1938, when Germany, Great Britain, and Japan were all cutting one another's throats to get the South American market, when they were selling at a loss in order to build up their foreign exchange resources, America's sales to the 20 Latin American republics exceeded the combined sales of Germany, Britain, and Japan.

America can hold its own against all comers. Pessimism is unwarranted.

New McDonald retail store in Hastings, Neb., showing air conditioning extension prior to completion.

Showing same area of second floor after completion, and location of chrome air vents in a "planned" air conditioning installation.

* * *

Retail Store Air Conditioned Year-Round

Nebraska Outlet Designed for Operation with Complete System, Enabling Clothing Chain To Construct 'Windowless' Building

HASTINGS, Neb.—The first retail store in central Nebraska said to be constructed expressly for operation with year-round air conditioning has recently been completed here by the J. M. McDonald Co., clothing chain which has 51 stores in four states and maintains headquarters in Hastings.

Four "Climate Changer" units manufactured by Trane Co. of La Crosse, Wis., air condition the 24,600 sq. ft. of space and were installed by Stewart Plumbing & Heating Co., while ductwork was installed by Jones Sheet Metal Co.

The brick-on-steel-frame building is unique in this part of the country in that windows are absent on exposed walls, except for street-floor display windows. General Manager Ernest Kuehn pointed out that complete air conditioning eliminated the need for windows and thereby gained the advantages of better insulation and elimination of dust and odors to keep merchandise free from dust-laden air-borne particles, not to mention increased personnel efficiency and customer comfort.

The air conditioning system was designed to provide both summer and winter air conditioning utilizing the same ductwork with 10 complete air changes per hour on the basis of a 100% fresh air summer cycle and a 0-100% fresh air winter cycle. Water coils are used for cooling with a city water temperature of 55° F. at the main, and steam coils for heating.

Pneumatic controls for modulating steam valves, water valves, fresh air, and return air dampers were furnished by the Minneapolis-Honeywell Regulator Co. of Minneapolis. The boiler is a Bryant No. 24-S-630, steam 6607 EDR from Cleveland. Second floor of the new store is equipped with two 3-hp. units to supply air conditioning for both the second floor and balcony.

First floor has a 5-hp. unit while the basement has a 3-hp. unit. C.f.m. air delivery for the basement unit is 6,350; 9,153 for the first floor, and 5,510 each for the two second floor units.

Air within the store is changed every six minutes as fresh outside air, properly conditioned and filtered, is introduced into the building. The separate air conditioning units on each floor operate as individual "weather factories" to assure constant temperature, and a change of temperature of only one degree is sufficient to place any of the units in production.

From the standpoint of lighting, the exclusion of direct sunlight and the use of modern fluorescent fixtures, using color-corrected bulbs, make it possible to reveal the full beauty and color of displayed merchandise.

Another innovation in construction of the new building was the use of vermiculite plaster. This gives additional insulation and fire proofing, and also made it possible to lighten the over-all structure by over 30,000 lbs. All floors as well as the roof are of steel reinforced light-weight concrete.

Nelson Co. Opens Victoria Branch Office, Warehouse

ST. LOUIS—The N. O. Nelson Co., refrigeration and air conditioning parts wholesaler, has announced the opening of a new branch sales office and warehouse at Victoria, Tex., about 120 miles from Houston.

The branch will be under the management of Ben T. Jordan, who was at one time the mayor of Victoria.

This brings to seven the number of Nelson houses serving the eastern and central Texas trade. Others are located at Houston, Beaumont, Austin, Dallas, Waco, and Wichita Falls.

Spacarb Moves Offices To Plant of Subsidiary In Stamford, Conn.

STAMFORD, Conn.—Spacarb, Inc., producer of automatic cup beverage equipment, has opened new executive offices at the plant of Frostidrink, Inc., here, it was announced recently by I. Hayne Houston, president of Spacarb.

Frostidrink is a Spacarb subsidiary and sole manufacturer of Spacarb equipment. Spacarb and Frostidrink occupy Building 13 of Union Industries.

The move effects a further consolidation of manufacturing and executive offices. Frostidrink has been manufacturing the Spacarb machine in Stamford since April of last year. With the moving of the executive offices, formerly located in New York City, all units of the company are now located here.

The current Spacarb model offers, in one machine, a choice of four flavors mixed to taste (the patented "Mix-A-Drink" feature) carbonated and non-carbonated drinks, hot and cold drinks, and the patented "Select-O-Carb" feature, enabling the operator to make dual carbonation settings.

Officers of the company, in addition to Houston, include H. J. Foster, vice president and sales manager; Jack G. Bowman, assistant to the president; Robert K. Deutsch, treasurer; William V. King, chief engineer and production manager; Albert G. Guzzi, service manager; and Robert O'Connor, assistant to the vice president and sales manager.

MANUFACTURERS' REPRESENTATIVES!

▼

As an industry service, AIR CONDITIONING & REFRIGERATION NEWS maintains a file of manufacturers' representatives—serving the refrigeration, air conditioning, and allied industries—in all parts of the country and in some foreign countries.

We periodically check our files to expand this service and request all qualified representatives (except those who have written within the last six months) to send us the following information today on their own letterheads:

1. Complete name of company or individual, address, and phone number.
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3. Lines and products being added or interested in adding.
4. Territory covered by states, parts of states, or countries.

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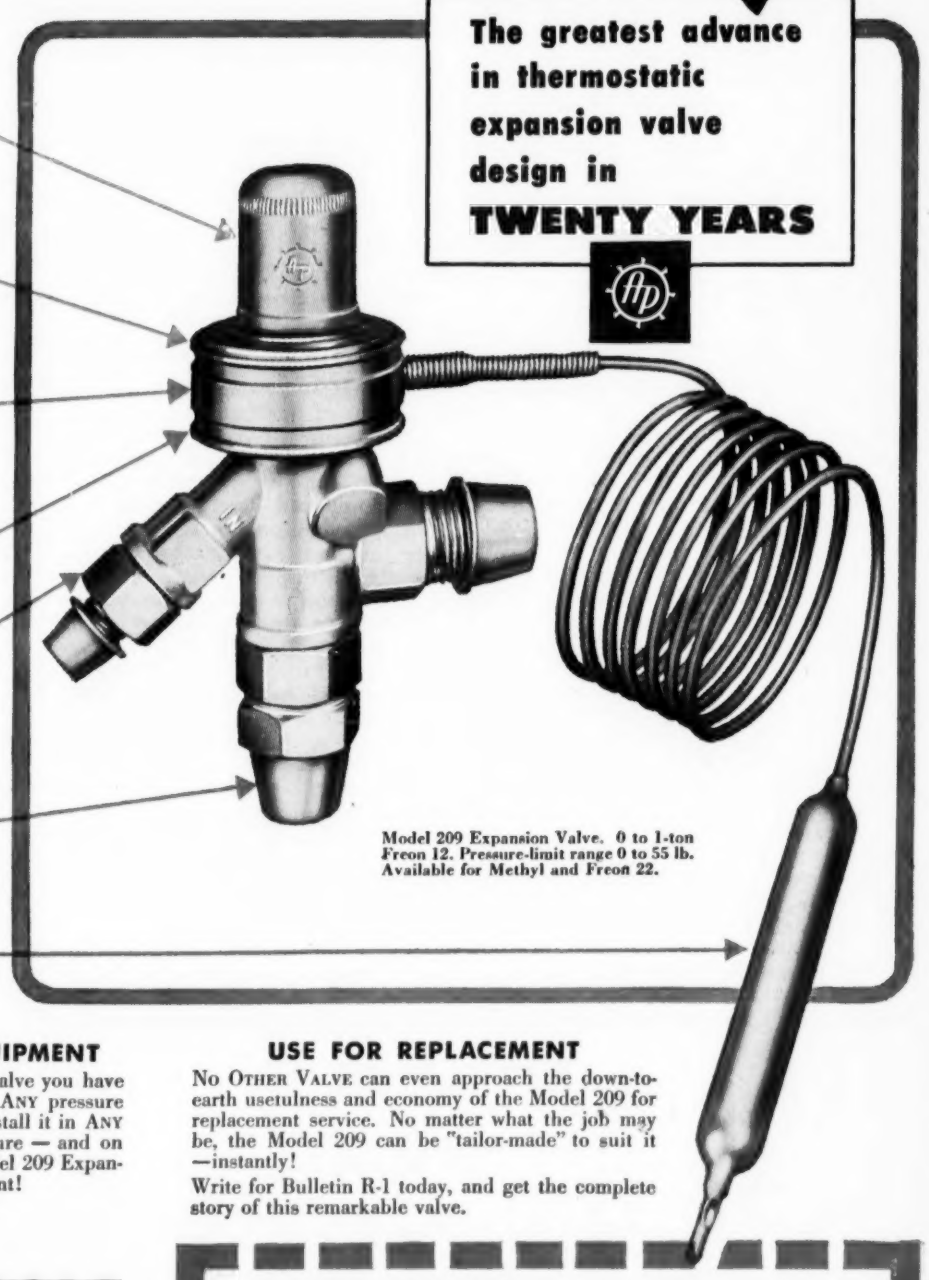

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Restaurateurs Find Air Cooling, Refrigeration Vital

How One Eating Place Makes the Most of It

DINING ROOM: Smartly-appointed main dining room on the first floor of the Gene Boyle restaurant in Clifton, N. J. Cool fresh air is introduced through overhead ceiling diffusers. Lamps have been suspended from the baffle plate of the air outlet. This room is typical of the colorful restaurant which has become one of the "show places" of the community.

WALK-IN: Gene Boyle, Jr., left, and Murry Stratmore, of the B. B. Rider Corp., which engineered and intalled the refrigeration and air conditioning, talk about performance in a walk-in cooler. A forced air unit, operated by a ¾-hp. compressor, provides refrigeration for the meat storage.

REACH-INS: The modern kitchen is equipped with two of these 62-cu. ft. Frigidaire reach-in refrigerators. These models are self-contained and are operated by a sealed rotary Meter-Miser compressor similar to those used in millions of household refrigerators. In addition, there is a unique forced air cooling arrangement to keep foods crisp and fresh.

AIR CONDITIONER: This horizontal type 15-ton Frigidaire central system air conditioner, located in the attic of Gene Boyle's restaurant in Clifton, N. J., supplies cool, fresh air to the second floor. It is hooked up with a 15-hp. Frigidaire water-cooled compressor in the basement. Note the thick insulation on ducts.

CLIFTON, N. J.—In operating its picturesque and colorful restaurant here, which combines superior facilities, food, and service, the father-and-son business team of the Gene Boyles, senior and junior, relies heavily on air conditioning and refrigeration.

Since its opening last year, the establishment has been considered one of the "show places" of the locality. The attractive white frame structure with its wide pillared veranda and smartly-appointed, air conditioned interior could easily double as a stately southern plantation house.

A glance at the over-all food handling and serving operation of the Gene Boyle restaurant provides a better understanding of the broad, yet exacting, scope of the air conditioning and refrigeration job.

Boyle has estimated that between 400 and 500 lunches, alone, are prepared and served each week day. This number increases to 1,200 dinners on Sundays.

Nearly every type of food and drink ranging from delectable tropical fruits and rare vintages of wine to top grade meats and fresh vegetables, must be properly refrigerated if they are to appear on the bill of fare. A staff of 70 waiters, attendants, and others keep the service at top-notch level.

To successfully accomplish this huge food service task, there is a battery of Frigidaire refrigeration compressors with accumulated horsepower to adequately supply more than 45 tons of refrigeration each day. This array of equipment works behind the scenes of the busy establishment, day and night, seven days each week.

The system was engineered and installed by B. B. Rider Corp. of nearby Passaic, N. J., Frigidaire commercial refrigeration and air conditioning dealership.

The first and second floors of the restaurant are air conditioned by Frigidaire central system equipment with the total refrigerating capacity amounting to more than 35 tons. Conditioned air is delivered to all parts of the structure through thickly insulated metal ducts.

On the first floor the large ultra-modern tap room, which will accommodate 20 persons at the "U" shaped bar and 60 others at tables, and the main dining room are supplied fresh cool air by two Frigidaire 10-ton central system air conditioners. Some cool air is also piped into the kitchen to help offset the heat generated by extensive cooking equipment and appliances, and afford relief to the busy chef and his staff.

A heavy-duty, 20-hp. Frigidaire water-cooled reciprocating compressor, located in the machine room in the basement, is hooked up in a chilled water multiplexed arrangement with the two large air conditioning units. Ducts leading from the conditioners to the dining room and bar discharge cool air through overhead ceiling diffusers with every other one serving as an air return.

The second floor air conditioning system has its own unit installed in the attic above with a separate compressor located in the basement. A Frigidaire central system air conditioner of horizontal design with a cooling capacity of about 15 tons, delivers cool air to a large banquet room, large enough to seat 150 diners; a small service and customer bar; and an upstairs hall.

The source of refrigeration is a 15-hp. Frigidaire water-cooled reciprocating compressor installed near the 20-hp. unit operating the first floor air conditioners. Like the main floor installation, cool air is delivered through ceiling diffusers.

In addition, a smaller private dining room on the second floor is also air conditioned. A small conditioner hooked up with a Frigidaire 1-hp. water-cooled reciprocating compressor affords a small central system for this room, designed to serve private parties.

That the air conditioned restaurant appeals more strongly to the public, is more respected, and benefits by increased prestige and goodwill is borne out in the Gene Boyle restaurant where patrons are numbered at about 2,000 daily.

Refrigerating equipment also plays an important role at Gene Boyle's.

The large ultra-modern main kitchen on the first floor is equipped with a total of 124 cu. ft. of refrigerated storage space provided by two self-contained 62-cu. ft. Frigidaire reach-in refrigerators equipped with a new forced air cooling arrangement.

Each refrigerator provides 77.3 sq. ft. of area on 19 adjustable and removable wire shelves. These refrigerators are cooled by sealed, rotary Meter-Miser compressors.

In addition, plenty of easily accessible frozen storage space is provided by an eight-lid, double row self-contained Frigidaire ice cream cabinet with a bulk storage capacity of 50 gals. or 13.6 cu. ft. of space. Like the reach-in refrigerators, this unit is also refrigerated by a Meter-Miser compressor.

This spotless kitchen of tile and stainless steel is complete with heavy duty cooking, roasting, and baking ranges equipped with hoods and a modern exhaust system; steam tables; crockery storage cabinets; utensil racks; plenty of table top work surface; meat cutting blocks, sinks and drain boards and many other pieces of equipment.

Besides the two reach-in refrigerators in the kitchen, another 62-cu. ft. Frigidaire unit of similar design is installed in the restaurant bakery.

A smaller service kitchen on the second floor is completely equipped, but on a smaller scale. For example, a 27-cu. ft. Frigidaire reach-in refrigerator is used instead of the larger models. Frozen storage is provided by a four-lid, double row Frigidaire ice cream cabinet with a bulk storage capacity of 25 gals. or 6.6 cu. ft. of storage space.

Extra-large refrigerated bulk storage facilities are also provided. In the basement is an area approximately 35 ft. long and 12 ft. wide given over to four individual walk-in coolers, for meats, vegetables, wine, and frozen foods.

The walk-in meat cooler, which is equipped with meat hooks for larger quarters and built-in shelves to store smaller cuts, is chilled by a Frigidaire forced air cooling unit. Refrigeration for this refrigerated room is supplied by a ¾-hp., water-cooled Frigidaire reciprocating compressor.

Another ¾-hp. compressor of similar design is connected with a smaller cooling unit in the vegetable walk-in cooler. Wine is held in chilled storage in a walk-in cooler equipped with a Frigidaire forced air cooling unit hooked up with a ⅓-hp. Meter-Miser compressor.

Frozen storage is provided in a walk-in refrigerator by a blast-type freezing unit, operated by a 1½-hp. Frigidaire water-cooled reciprocating compressor.

In addition there is a walk-in cooler used for chilling beer and other bottled beverages. A ¾-hp. water-cooled Frigidaire reciprocating compressor, hooked up with a forced air cooling unit, accomplishes this task. A huge ice-maker is operated by a 2-hp. Frigidaire water-cooled compressor.

Two Frigidaire Meter-Miser compressors of ¼-hp. each are used to cool the back bar and a beer dispenser in the first floor bar, adjacent to the main dining room. Another unit of similar design refrigerates the storage compartments in the smaller service bar on the second floor.

Stringham Is G-E Supply Commercial Vice Pres.

WASHINGTON, D. C.—Warde B. Stringham has been elected commercial vice president of the General Electric Supply Corp., it has been announced by Charles R. Pritchard, president. He will be the company's representative with headquarters in Washington.

At the same time, the Chesapeake District of the Supply Corp., of which Stringham was formerly manager, has been divided into two districts with headquarters at Washington and at Baltimore.

Arthur L. Aiken has been appointed manager of the new Washington District and J. Walter Turner has been named to a similar position in the new Baltimore District. Charles W. Webster becomes assistant district manager to be located in Baltimore.

Webster has been with the Baltimore office of the Supply Corp. since 1926 and has been manager of the appliance sales division there since 1945.

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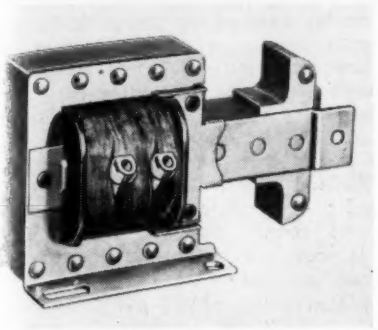


* * *

Soreng Solenoid Design Permits Greater Power

——KEY NO. A-150——

SCHILLER PARK, Ill. — The patented "TT" design of the new Soreng a.c. solenoid permits greatly increased power in a compact unit measuring only 2 15/16 in. high by 2⅜ in. wide, by 2⅞ in. deep, the Soreng Mfg. Corp. here announced.

Nominal stroke is 1⅜ in. with pull varying from 6 to 16 lbs. in constant duty units and from 11 to 29 lbs. in intermittent duty units.

Design features include high sealing pull, a minimum of heating, and double shading coils that reduce the hum and other electrical noises found in all old type solenoids, Soreng said.

Because of its adaptability to high-volume production, the No. 12800 has the lowest cost per work unit of any solenoid, the company claimed.

The solenoid can be furnished to operate on any a.c. voltage and frequency. Terminals and mounting brackets are furnished to the customer's specifications.

Larco Introduces New Electric Water Sterilizer

——KEY NO. A-151——

LOS ANGELES — An electric sterilizer that offers an answer to water problems in places where the source of running water is questionable has been introduced by Larco, here.

The sterilizer has a flow of four gallons of sterilized water per minute and is adaptable to electric water coolers, soda fountains, and manufacturing plants compounding their own formulas.

Water purification is accomplished by the use of a sterilizing lamp and quartz tube with a reserve chamber of water. A safety feature is provided by the use of a solenoid valve that prevents the flow of water in the case of power failure or the burning out of the lamp. A manual reset button puts the device in operation.

With a life of over 2,000 hours, the sterilizing lamp is said to use a small quantity of electricity and burns continuously.

The sterilizer operates on either a.c. or d.c. current. The lamp is a type that is available in almost all markets and can be readily changed.

The Larco sterilizer has over-all dimensions of 20 in. long, 9 in. high, and 9 in. wide. It is connected to tap water with copper tubing in a simplified installation. All parts are finished in black crackle and chrome plated metal parts. The sterilizer complete lists for $150.00 and weighs 15 lbs.

* * *

Chrome Plating Process Extends Cutting Tool Life

——KEY NO. A-152——

MOUNT VERNON, N. Y.—A new industrial hard chrome plating process embodied in the model A-20 Chromaster and Chromasol will multiply the normal life of most cutting tools and wear parts by 3 to 10 times, the Ward Leonard Electric Co. here announced recently.

The model A-20 Chromaster provides facilities for hard chrome plating metal surfaces up to 10 sq. in. at the recommended current density of 2 amps per sq. in. The unit, made by the industrial chrome division of the company, is compact and completely portable.

Chromasters in greater capacities will be available soon, the company said.

Powered by a dry disc, power pack, selenium rectifier, the model A-20 Chromaster is equipped with plating bath tank, heavy duty rheostat, timer, ammeter, and reversing switch for stripping action. The hard chrome deposition can be controlled to tolerances of less than 0.0001 in. with the Chromaster.

Operating at room temperature, Chromaster is a new, non-critical chrome plating solution shipped to the user in a liquid, concentrated form. Chromasol delivers a hard chrome plate that follows the exact characteristics of the base metal to which it is applied. The rate of deposition remains constant at 0.002 in. per hour.

Using this process, 1½ minutes is the average time required to hard chrome cutting tools and wear parts and fortify them against chip-loading, galling actions, and heat wear. Friction is reduced 12 to 20% with the use of the model A-20 Chromaster and Chromasol.

* * *

Hand Punch Offered for Cutting Washers, Gaskets

——KEY NO. A-153——

PHILADELPHIA — A new hand punch for cutting washers and gaskets from leather, rubber, canvas, soft brass, copper, lead, or other light materials has been introduced by the Rini Metals Co. here.

The punch, called "Centr-O-Punch," is merchandised in a standard set that consists of a handle and nine interchangeable cutters ranging from ¼-in. to 1-in. in diameter.

With the use of these interchangeable cutters, any desirable combination of inside and outside diameters can be arranged. Additional cutters are in sizes up 2½ in. in diameter.

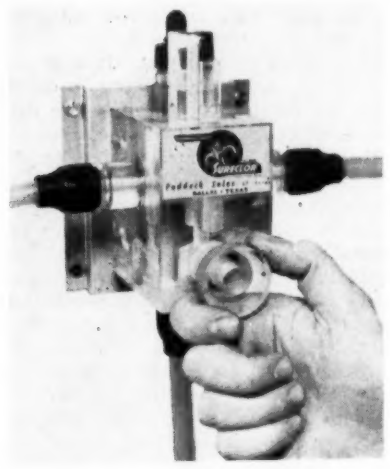
The Centr-O-Punch is claimed to be self-centering and self-ejecting. A receding pointed plunger marks dead center when the first (outside) cut is made so that positioning for the second (inside) cut is accurately established.

Material is automatically ejected with each cut so barrel does not clog.

The Centr-O-Punch is made of durable alloy steel with a sturdy internal spring-and-plunger assembly that cannot foul up.

Cutters are also of high alloy steel with non-rusting blue-temper finish. They have straight inside walls that assure long service.

Plastic Chemical Feeder



——KEY NO. A-154——

ALGAE AND SLIME in cooling towers are said to be eliminated by this "Sureclor" chemical feeder announced by Paddock Engineering Co. of Texas. Fabricated from transparent plastics, the chlorinator is water-energized, operates on a high-vacuum principle, has no moving parts.

Cites Fast Installation Of 'Zipcoats' for Joints

——KEY NO. A-155——

BRADFORD, Pa. — "Zipcoat," a new product for protecting coupled pipe joints, welded joints, and insulating joints from corrosion, has been put on the market by Dresser Mfg. Div. here.

The firm manufactures three principal types of Zipcoats. That for couplings is designed to cover and protect a Dresser-coupled joint. Each has a bleeder valve to vent air during backfilling.

The Zipcoat for welded joints is for the protection of a circumferentially welded joint. The type for insulating joints is similar to that for welded joints, but comes in 10-ft. lengths. It is said to "eliminate costly boxing and permit immediate trench backfilling."

Dresser claims that Zipcoats can be installed in one tenth of the time it takes to coat a joint. At the same time, the company declared, the product eliminates hazards, since there is no working with flames, no handling of hot coating compounds, and no danger from fumes or burns.

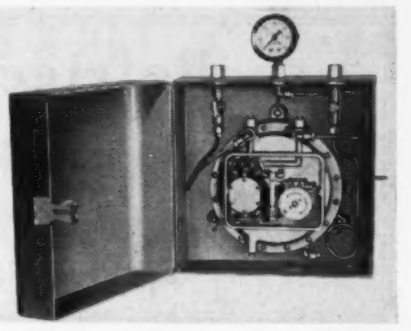
Zipcoats are described as having high dielectric strength and giving protection "that equals or exceeds that of mill or ward-wrapped pipe." Each contains an anaerobic microbiological corrosion inhibitor.

Air Velocity Controller Developed by Johnson

——KEY NO. A-156——

MILWAUKEE — A new, proportional action velocity controller, for controlling air velocities ranging from 50 to 250 f.p.m., has been developed by Johnson Service Co.

While many applications of the new controller are possible, it is designed primarily to control the velocity of air through the doors of fume hoods, employed in working with radioactive materials, where a fixed velocity is required with variable door openings. It already is being used in atomic energy and cancer research projects, according to the company.



Johnson Service's air velocity controller.

Operation of the Johnson instrument is based on the fact that the velocity of air, moving between two points, is proportional to the difference in pressure between those points.

This extremely sensitive regulator responds to pressure variations of .0001 in., water gauge, and controls velocities within plus or minus 10 f.p.m. Control pressure increases in direct proportion to the increase in velocity. An increase of 10 f.p.m. increases the control pressure 1 p.s.i., it was explained.

The instrument consists of a very light, flexible diaphragm, operating a pneumatic control mechanism. One side of the diaphragm is exposed to the pressure within the laboratory, and the other side is connected to an averaging pressure tip located within the fume hood.

Thus, the diaphragm responds to the difference in pressure which causes flow through the hood door and automatically takes into account which of the two pressures is higher. Proper control of the direction of flow, as well as the difference in pressure, is assured, Johnson Service stated.

The sensing diaphragm actuates a lid which opens and closes a leakport. The pressure difference on the diaphragm results in a proportional leakport pressure. The leakport pressure, in turn, actuates a pilot type relay which varies the control pressure to the damper or other controlled device.

A circular dial is provided which permits adjustment of the controlled velocity within the operating limits of 50 to 250 f.p.m.

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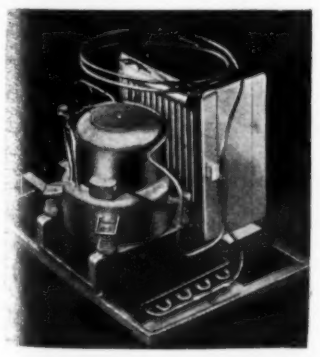

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Refrigeration Problems

and their Solution

by Paul Reed

For Service and Installation Engineers

Paul Reed

Mixing Water Vapors & 'F-12' Vapors (6)

In discussing the "Heat and Vacuum" method of drying out a coil, we found that heating the coil from 60° to 300° increased the speed of vaporizing water in the coil, but after the water was all vaporized, the heat was not effective in enabling us to get the coil dry enough to use as an evaporator at 20°, if the vacuum pump could draw no deeper than a 29½ in. mercury vacuum.

We were able to reduce the moisture content to only .000476 of a pound per cubic foot, corresponding to a 44° dewpoint of the water vapor in the coil, although we need to reduce the moisture content to less than .000177 lbs. per cubic foot, corresponding to a 20° dewpoint of the water vapor. We found that by using this method we had to use a vacuum pump that would pull a 29.82 in. of mercury vacuum in order to obtain the 20° dewpoint.

In order to use this coil on a freezer at -10°, we would have to use a vacuum pump that would draw a really deep vacuum, down to about 29.9 in. of mercury vacuum, which is only 1/50 of an inch of mercury or 1/100 of a pound per square inch above a perfect vacuum, in order to obtain a dewpoint of the moisture in the coil to -10°.

Vacuum pumps that will pull that deep a vacuum are commercially available, but they are expensive, so we wonder if there is not some other way to dry the coil enough to use it on a -10° evaporator.

There is such a way that is simple, inexpensive, and requires no very special equipment. It has been described by F. Y. Carter of Detroit Lubricator in a number of talks that he has made before Refrigeration Service Engineers Society meetings in several places in the United States. He gives credit to M. B. Goddard of the Carrier Corp., Chicago, for originating the method or at least first calling it to his attention.

THE 'DOUBLE-DEHYDRATION' METHOD

This method is called the "Double-Dehydration Method" or it could also be fittingly called the "Double Evacuation Method." To illustrate this method, let us first pump a 29½-in. vacuum on the coil referred to in previous issues. It has an internal volume of one cubic foot and it has 2 oz. of water in it. It is at a temperature of 60°. Heat can be used with advantage to speed up the evaporation of any free water in the coil.

If, in a 60° room, the vacuum gauge goes down to 29.4 in. and stays there for a long time, and if we know that the compressor is capable of pulling a lower vacuum than 29½ in., then we know that there is still some free water in the coil, for 60° water will boil at 29.4 in. of vacuum.

Therefore, the pressure in the coil will not go below 29.4 in. until all of the free water is vaporized and only a vapor is left. Then the vacuum can go down; but if 29½ in. is the bottom limit of the vacuum pump, the vacuum gauge will stop there and stay at 29½ in., no matter how long we run it.

When the vacuum pump reaches a 29½ in. of mercury vacuum in a 60° room, the dewpoint of the vapor in the coil is 54° and the density of the vapor is .000675 of a pound per cubic foot; that is, there are about 3½ drops of water in vapor form still left in the coil.

HOW IT IS DONE

Now let us stop the vacuum pump, and if there are no leaks, the pressure in the coil will remain at 29½ in. of vacuum, or .2063 p.s.i.a. (about 1/15 of a pound per square inch above a "perfect vacuum").

Then we connect a cylinder of "Freon-12" at 60° and let in enough "Freon-12" in vapor form to build the pressure up to zero gauge. The 60° vapor in the "Freon-12" cylinder had a pressure of 57.7 p.s.i.g. or 72.4 p.s.i.a., and a density of 1.74 lbs. per cu. ft.

When we drop the pressure of the "Freon-12" vapor from 72.4 p.s.i.a. to zero gauge or 14.7 p.s.i.a., we reduce the density proportionately. Therefore, the "Freon-12" vapor in the coil is a superheated gas at 0 p.s.i.g. or 14.7 p.s.i.a., and has a density of .353 instead of 1.74 lbs. per cu. ft.

Putting the "Freon-12" into the coil does not change the dewpoint of the water vapor, nor its density of .000675 of a pound per cubic foot.

When we get a pressure of 0 p.s.i.g. (14.7 p.s.i.a.) in the coil, we shut off the cylinder and start the compressor. At that instant, there is a mixture of water vapor and "Freon-12" vapor in the coil at a total pressure of 0 p.s.i.g. or 14.7 p.s.i.a., most of which is due to the "Freon," for the pressure of the water vapor is only .2063 p.s.i.a. The total density is .353675 lbs., of which .353 is from the "Freon-12" and .000675 is from the water vapor.

We run the compressor until we again obtain a vacuum of 29½ in. of mercury, or .2063 p.s.i.a., that is, we reduce the pressure about 71 times from 14.7 to .2063 p.s.i.a. and we also reduce the density of the mixture and of each of the two gases, "Freon-12" and water vapor, about 71 times.

That is, the density of the water vapor, which is what we are interested in, is reduced from .000675 lbs. per cu. ft. in the same proportion as the pressure is reduced. Therefore, we get a density of water vapor this second time, that we pump a 29½ in. vacuum, of .000009 (.000675 × .2063 ÷ 14.7) lbs. per cu. ft.

DEWPOINT OF -72°

Thus we now have only .000009 of a pound of water vapor in this coil of one cubic foot inside volume, or we may say that we have reduced the water vapor in this coil of one cubic foot inside volume, or we may say that we have reduced the water vapor to nine parts per million (9 ppm). If we look this density up in the steam tables we will find that this is the density of saturated steam at a temperature of -72° F.; that is, water vapor at .000009 of a lb. per cu. ft. has a dewpoint of -72° F.

(Steam tables or psychrometric tables usually show "specific volume" instead of "density." To convert density to specific volume, we merely divide the density into one, so one divided by .000009 [actually it is .0000093] gives 1,075,300 cu. ft. per lb., which the tables show corresponds to a dewpoint of between -71° and -72° F.)

WHAT WE DID

In this example we started with a coil with an internal volume of one cubic foot, and in this coil were two ounces of water, most of which was in the form of surface moisture on the inner walls of the tubing. The coil was in a 60° room, so the dewpoint of the water vapor in the coil was 60°, for the vapor was in the presence of free moisture on the walls and was therefore saturated at 60°.

We found that by merely pumping a 29½ in. of mercury vacuum on the coil, we could finally reduce the dewpoint of the vapor in the coil to 54°, after all of the free water on the inner walls was evaporated.

We found also that by heating the coil to 300°, we could boil the free water on the inner walls more rapidly and reduce the time necessary to turn all of the free moisture vapor. Also, the 300° temperature enabled us to reduce the dewpoint to about 44°, by pumping a vacuum of 29½ in. of mercury on the coil.

Now we find that after getting a dewpoint of 54° at 29½ in. of mercury vacuum, with or without heating the coil, we could break the 29½ in. vacuum to zero gauge (atmospheric pressure) with "Freon-12" gas from a cylinder of "Freon-12" at 60°, and that after again pumping a 29½-in. vacuum, we have reduced the dewpoint tremendously. Now we have the dewpoint down to -72° and the water vapor down to 9 millionths of a pound.

All of this was done by using a compressor that was able to draw a 29½-in. vacuum. Such a compressor is rather hard to get and it is rather difficult to keep it at that efficiency.

DOUBLE EVACUATION WITH A 28-IN. VACUUM

Except for ultra-low temperature jobs of -50° evaporators or below, we do not need to get the dewpoint of systems down to -72°, so we begin to wonder if, using the Double Evacuation method, we could not do an acceptable drying job for ordinary systems, including ice cream cabinets, freezers, and other low-temperature systems, using a compressor that does not have to be so good.

Suppose, therefore, that we have a compressor that can pump a 28 in. of mercury vacuum with its discharge to atmospheric pressure. Also let us assume that we are willing to accept a dewpoint of anything below -10°.

Again we start with this same coil with two ounces of water in it and the coil is at 60°. We pump a 28-in. vacuum on it without heating the coil any above 60°.

In the steam tables or psychrometric tables, we find that a 28 in. of mercury vacuum (.944 p.s.i.a.) corresponds to a boiling temperature of water of 100°. Since the coil is at 60° corresponding to a water vapor pressure of 29.4 in. of mercury vacuum, or less pressure than the compressor is able to pump, the compressor would have no effect on reducing the moisture content of the coil.

WARM THE COIL TO 125°

So we must get the temperature of the coil above 100° in order for our compressor to even be effective in vaporizing the free water. With a bank of heat lamps right on the job, we heat the coil to 125°. This brings the water vapor pressure up to 26 in. of mercury vacuum or 1.94 p.s.i.a., and the density to .005602 of a lb. per cu. ft.

Now the free water in the coil will boil if we keep the pressure down to at least 26 in. of vacuum. So we start the compressor. The pressure will quickly come down from 0 gauge to a 26-in. vacuum, but the pressure will hang there until all of the free moisture is vaporized and there is only saturated water vapor in the coil. Since this saturated water vapor is at 125° and 26 in. of vacuum, it has a density of .005602 of a lb. per cu. ft.

The pressure will now go on down from a 26 to a 28-in. vacuum and the density will go down also, in proportion to the reduction in the absolute pressure (1.94 p.s.i.a. to .94 p.s.i.a.), so the density at the 28-in. vacuum and with the temperature still at 125°, will be .00271 corresponding to a dewpoint of 98°.

We cannot allow this coil to again cool down below 98°, for if we do we would allow water vapor at a dewpoint of 98° to condense on the inner walls of the coil.

BREAK THE VACUUM WITH 'FREON-12'

However, we can allow the coil to cool to 100° before we put the "Freon-12" into it. When the coil is cooled to 100°, we stop the compressor and let "Freon-12" gas into the coil from a cylinder of "Freon-12" at room temperature of 60°. The "Freon-12" vapor superheats from from 60° to 100° and we let 60° "Freon-12" vapor in until the coil pressure is up as high as it will go with the coil at 100°. Saturated "Freon-12" vapor at 60° superheated to 100° gains somewhat in pressure from 67 p.s.i.a. at 60° to about 72.7 p.s.i.a. at 100°. In the meantime, the water vapor is at 98° dewpoint, so its vapor pressure is .89 p.s.i.a., and its density .00271 of a lb. per cu. ft.

Now we start the compressor and when it reaches a vacuum of 28 in. (.944 p.s.i.a.) it can pump no more. Nevertheless, it has reduced the total pressure from 72.7 p.s.i.a. (58 p.s.i.g.) to .944 p.s.i.a. (28-in. vacuum) and the partial pressure and density of the water vapor in the same proportion, so the final water vapor density becomes (.00271 × .944 ÷ 72.7) or .000035 lbs. per cu. ft., or a specific volume of 28,736 cu. ft. per pound.

DEWPOINT OF -13°

In the steam tables, we find that this corresponds to a saturation temperature or dewpoint of -13°.

Thus, by first pumping a 28-in. vacuum on the rather wet coil, heating it to 125°, letting it cool to 100°, then breaking the vacuum to 58 lbs. gauge with 60° "Freon-12" vapor, and again pumping a 28-in. vacuum, we have obtained a -13° dewpoint and have left in the coil only thirty-five millionths of a pound of water vapor. This is equal to only about ¼ of a drop of water.

So by using the Double Evacuation Method and a little heat to enable us to evaporate the moisture in the cool room, with a not very low vacuum, but with a little "Freon-12" gas, we were able, even with a compressor that could pump no deeper than a 28-in. vacuum to dry this coil to a -13° dewpoint.

Two things were important:

(1) To warm the coil above 100° to allow the water to boil at a 28-in vacuum.

(2) To mix "Freon-12" vapor with the water vapor and then again pump a 28-in. vacuum.

If the compressor had been able to pump a 28½-in. vacuum, we would have had to warm the coil to only 90° to allow the water to vaporize at a 28½-in. vacuum.

COULD USE CO_2 OR NITROGEN INSTEAD OF 'FREON-12'

In these two examples of the Double Evacuation Method, we have used "Freon-12," but carbon dioxide or nitrogen could have been used. Nitrogen is better, for it has an affinity for water and thus does some drying on its own account.

Exactly the same results by using CO_2 or nitrogen instead of "Freon-12" will not be obtained, but the difference is very small, and very low dewpoints may be obtained by using either of these two gases. Even dry air can be used, not ordinary compressed air (which is quite wet), with about the same results.

East Hartford, Conn. Firm Named To Distribute Norge Appliances

EAST HARTFORD, Conn. — Appointment of Radio & Appliance Distributors, Inc., here, as distributor of the Norge line of appliances in Connecticut, western Massachusetts, and part of Vermont was announced recently by the company.

Cambell Wilson, sales manager of the appliance division, has charge of the line.

The company has increased its sales and service forces and is planning to expand its facilities at the present location, 673 Connecticut Blvd., according to Lewis K. Roth, president.

JUST ASK US!

Turn to "What's New" page for free, useful information.

ICE CREAM, CUSTARD MIX . . . WHEN YOU WANT IT

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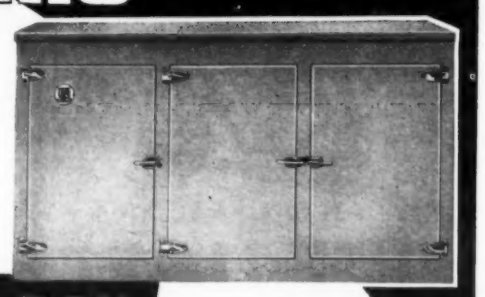

HI-BOY

LO-BOY

Quality assured by reducing freezing time of mix stored in beautiful white enamel well insulated cabinets. . . . Hi-Boy holds 4-10 gal. mix cans plus room on shelf for small containers. ALSO WALK-IN COOLERS FOR LARGER STORAGE FACILITIES.

Reduce freezing power costs and time by holding mix at proper temperature in Lo-Boy. Unexpected demand no longer a problem and more sales will result. . . . 2, 3, and 4 door models for 4, 6, and 8-10 gal. can capacities. Available in same finish and insulation as Hi-Boy.

WRITE

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LA CROSSE, WIS.

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for Quality

HIGH AND LOW BOY MODELS

LARKIN WALL HUMI-TEMP

Quality speaks a language everybody understands. Wholesalers, dealers, and users alike know that the name *Larkin* means quality—of workmanship, materials, and performance.

Manufacturers of the original Cross-Fin Coil — Humi-Temp Units — Evaporative and Air Cooled Condensers — Air Conditioning Units and Coils — Direct Expansion Water Coolers — Steel Vacuum Plate Coils — Heat Exchangers.

WATCHDOG OF THE NATION'S FOOD SUPPLY

LARKIN COILS

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Current Literature Available

To obtain further information on the literature listed below, please refer to key number preceding listing. Please use the "Information Center" form on "What's New" page.

Linde Revises Booklet On Use of Heliarc Torch

——KEY NO. M-150——

NEW YORK CITY—"How to Weld with Heliarc Torches," a newly revised booklet containing information on welding, surfacing, and hard-facing of many commercially used metals was announced by Linde Air Products Co. here.

Chapters are included on the fundamentals of the process, a description of the Heliarc equipment, preparations for welding, operating instructions for handling the torches, and complete welding data for aluminum, stainless steel, magnesium, copper and copper alloys, plain carbon and low alloy steels, cast iron, and nickel and monel.

Properties of each metal and precautions for welding them, sketches showing the types of welds and thickness of materials, detailed tables of welding current, welding rod, electrode diameter, torches, and welding speed to be used for the various thicknesses and types of joints are all included in 12 pages of detailed information.

New Wiring Handbook Advises Home Owners

——KEY NO. M-151——

PITTSBURGH—A new edition of its Home Wiring Handbook for homeowners has recently been published by the Westinghouse Electric Corp.

The illustrated, 135-page booklet was written by A. Carl Bredahl, manager and technical director of the Westinghouse Better Homes Bureau.

The wire-bound book, by use of charts and diagrams, simplifies such technical problems as architectural lighting, location and types of convenience outlets, two-wire and multi-wire circuits, and control centers.

Adequate protection for circuits, communication systems, suggested specifications for single-family dwellings, and a system for estimating electrical costs are also a part of the handbook.

Another chapter is devoted to an explanation of building design and construction terms, to enable the novice to distinguish between purlins and nosings, or balusters and balustrades.

To further help the home designer plan space for the electrical equipment, the new edition of the handbook includes simple outline drawings of appliances and equipment.

Copies of the Westinghouse Home Wiring Handbook may be had at $1 each. Special rates for quantity orders are available.

Zeolite Water Softener Described In Pamphlet

——KEY NO. M-152——

PHILADELPHIA—Cochrane Corp., here, has recently issued a bulletin on the Cochrane junior industrial Zeolite softener, publication No. 4505.

This illustrates and describes a water softening apparatus for small boiler and industrial applications, where less than 100 gals. of softened water per minute are required.

Two groups of sizes are offered, each group available is single or double units with greensand, synthetic gel, and resinous type zeolite material according to the requirements of the water supplies. Drawings, dimensions, and capacities are shown.

Kooler-aire Book Has Unusual Die-Cut Shape

——KEY NO. M-153——

MINNEAPOLIS—A unique promotional booklet, die-cut as a detailed section representation of its packaged refrigerated Kooler-aire equipment, has just been issued by the United States Air Conditioning Corp., to illustrate graphically the features of this compact unit.

Entitled "All in One Package," the double-flap cover of the odd-shapped booklet is a cut-out photo of the unit and opens outward to reveal a sectionally-cut picture of the equipment's interior.

The part depicting each of the unit's components also opens separately to reveal a description of each section—conditioner, compressor, and evaporative condenser.

The remainder of the booklet provides installation diagrams and instructions, general specifications and capacities of the equipment, a breakdown of its parts, instructions for its adaptation to perform an added heating function and a statement on its economical features.

Torrington Publishes Blower Wheel Catalog

——KEY NO. M-154——

TORRINGTON, Conn.—Publication of a new 48-page catalog, "Torrington Airotor Blower Wheels," has been announced by Torrington Mfg. Co.

Larger than anything previously published on this subject, the catalog gives full specifications and performance charts on several new Airotor models and features the recently-perfected "Coasting Hub." In response to customer demand, there is also a complete packing data chart.

The Torrington Coasting Hub, developed for manufacturers of pressure-atomizing oil burners, is said to eliminate "the troublesome 'after-fire' problem which has been considerably intensified by today's use of harder-to-burn catalytic oils.

"The Coasting Hub provides practically full air delivery during the first few seconds after pump and motor stop, so that shutdown is accomplished without soot, smoke, shudder, or carbonization at the nozzle."

According to the company, new Airotor sizes "make possible higher efficiency ratios on numerous installations." The catalog gives complete data for each and every size.

Detailed graphs show performance at varying horsepower and r.p.m., how to house the blower properly, what scroll dimensions are most efficient, and several other kinds of technical and engineering information.

Included in the catalog is a section showing the merchandising and selling helps Torrington makes available.

Cash-Acme Bulletin 299 Covers Valve Changes

——KEY NO. M-155——

DECATUR, Ill.—A condensed catalog describing the Cash-Acme line of pressure relief and pressure reducing valves and controls for hot water heating systems has been published by the A. W. Cash Valve Mfg. Corp. here.

Called Bulletin 299, the catalog contains information on a great many changes in valve construction. It features two new valves, one a automatic reseating relief valve and the other a new large size pressure reducing and regulating valve, type E-41.

Schaefer Tells Freezer Story In Different Way

——KEY NO. M-156——

MINNEAPOLIS — A new 12-page booklet—a combination catalog and home freezer story—has just been issued by Schaefer, Inc., manufacturer of "Pak-A-Way" home freezers.

In this Form 186, a typical American housewife who owns and uses a Pak-A-Way freezer tells her friend her experience with the freezer, how she saves time and money, what she can do with the freezer, how convenient it is, and why she and her husband selected the Pak-A-Way.

Sherer-Gillett Adds Catalog Pages on 3 Items

——KEY NO. M-157——

MARSHALL, Mich.—New catalog pages on three recently introduced commercial refrigeration cases were announced recently by Sherer-Gillett Co. here.

The pages illustrate and provide complete descriptions and specifications on the company's models 45-SD and 70-SD "Glide-Door" reach-in display refrigerators, and the model UL2206-MB two shelf, double duty meat case, completely self-contained.

'Fundamentals of Fire Extinguishment' Issued

——KEY NO. M-158——

MARINETTE, Mich. — An educational booklet on fire, suitable for distribution to fire protection personnel, has been published by Ansul Chemical Co.

"Fundamentals of Fire Extinguishment" is a 4-page folder.

Specifications Sheet Covers Flake Ice Chest

——KEY NO. M-159——

CINCINNATI — A specifications sheet on the new Thesco flake ice chest, adaptable to most flake ice machines, has been issued by the C. Schmidt Co. here.

The sheet provides an illustration of the chest, which was designed particularly for use with the York model DER 11 flake ice unit.

OPERATION X-RAY

Use of 5-Hp. Compressor Gives Better Service, Cuts Developing Costs In St. Louis Hospital

ST. LOUIS — Better service to patients and elimination of a costly annual loss are both advantages which have ensued from installation of a 5-hp. refrigeration compressor, in the X-ray developing room of the Missouri Pacific hospital at 1755 S. Grand Blvd. here.

Developing of X-ray films, produced in a nearby X-ray laboratory, was often a serious gamble during the hot summer months, according to H. J. Mohler, superintendent of the hospital, because developing fluids at too-high temperatures would result in dim, indistinct negatives, or in many cases, fail to activate the emulsion.

Even though the developing room was air conditioned, in an effort to do away with the heat problem, the film nevertheless was largely unsatisfactory during the period from May 31 to Sept. 1.

Ultimately, a check of the operating temperature in the stainless steel X-ray film developing tanks proved that the hospital's own water supply was at fault—inasmuch as during the summer months, fresh water brought in for mixing with photographic chemicals would arrive at temperatures above 60° F. Upon testing several X-ray films in refrigerated mixtures, it was found that a clear, sharp negative was the result.

As a result, Mohler called in Louis Nachman, St. Louis refrigeration contractor, who solved the problem by the construction and installation of a six-compartment, stainless steel film developing tank, which is located on the left wall of the darkroom.

This tank, 8 ft. long, 2 ft. deep, and 3 ft. wide, is divided into six compartments. Developing fluid is mixed and run into the tank to a depth of 20 in. At the bottom of each of the sections is an individual direct expansion type cold plate, mounted outside the laboratory, in a driveway used for ambulance delivery.

Carefully controlled by thermostats at either end of the tank, the compressor unit will maintain the temperature of the developer between 45 and 50°, at any degree point selected, even when the outside temperature rises to 110°.

Friedrich District Mgr. Dies

JACKSON, Miss.—R. T. Neely, Sr., 50-year-old district manager for Ed Friedrich Refrigerator Sales Corp., San Antonio, Tex., in charge of the company's showrooms in Jackson, died in a local hospital recently.

MORE INFORMATION?

Use Handy Coupon on "What's New" Page of this issue

"Easily understandable---
and a great aid to service engineers"

REFRIGERATION PROBLEMS AND THEIR SOLUTION

In four volumes, J-1, J-2, J-3, and J-4

by Paul Reed

Handy, practical, reference information for the refrigeration service engineer, "Refrigeration Problems and Their Solution" is written and illustrated so as to be of interest to salesmen, users, and others who want a fuller knowledge of refrigeration.

You'll like the way Paul Reed has organized his material . . . and he writes clearly, making these books easy to understand and a pleasure to read. And because Paul Reed has such a wealth of practical knowledge of refrigeration, and years of experience behind him, you'll find reading these books the next best thing to a person-to-person chat about your refrigeration problems. Conveniently cross-indexed for instant use, "Refrigeration Problems and Their Solution" can provide "the missing link" in your search for authentic advice on "how to make it work."

VOLUME 1

Measuring Temperature; What Heat Is; Temperature-Pressure Relationships; Components In the Compression Cycle; Expansion Valves and Their Properties; Capillary Tube; Float Valves; Heat Exchangers; Oil-Refrigerant Mixtures; Control Settings; Air Circulation; Multiple Systems; etc.

VOLUME 2

Condensers; Compressor Shaft Seals; Defrosting Evaporators; Compressor Oil; Charging Refrigerant; Humidity and Air Circulation; Carbon Dioxide; Use of Gauges; Trouble-Shooting; Preventive Maintenance; Control of Moisture; Leaks; Care of V-Belts; Lapping Seals, Plates; Service Charts.

VOLUME 3

Lost Time and Short Cuts; Refrigerants and Tables; Mollier Chart; Two and Three Stage Compression; Leaks and Moisture; Electric Currents; Single and Three Phase Systems; Motor Troubles; etc.

VOLUME 4

Cleaning Parts Before Repairs; Compressor Noise; Compressors In Parallel; Frozen Compressors; Service Problems; Overloaded Motors; Making Money In the Service Business; Absorption; Evaporative Cooling; The Heat Pump; Comparative Cost of Fuels.

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1-29-51

Air Conditioning an Elk's Club Banquet Hall

Gettysburg Installation Cited as Indicative of Type of Market Frequently Offered the Contractor by 'Homes' of Fraternal Orders

GETTYSBURG, Pa.—The air conditioned banquet hall in the Elks Club here was pointed up recently by the Frick Co., whose units are used in the installation, as indicative of the type of market that the "homes" of fraternal orders offer to the air conditioning contractor.

Air conditioning was practically a "must" here, for the 60 by 38 by 14-ft. room on the second floor is used by the order as the locale of all sorts of social affairs.

The large room seats between 300 and 400 persons, is equipped with a 14 by 9-ft. stage, and is lighted by nine big windows. In addition to banquets, dances and other parties are held here. Meals are served daily to club members and their guests.

HANDLES ADJOINING ROOMS

The year-round air conditioning system is set up to take care of not only the banquet hall, but also the adjoining bar and cloakroom. Conditioned air passes to the latter through large grilles in the walls separating them from the banquet hall.

Fresh air is drawn from the outside at all times and none of it is recirculated, it was pointed out. In this way, the overflow from the conditioned spaces cools, ventilates, and removes smoke from other rooms that share the second floor of the "home."

Fresh air is drawn into the system through a 5 by 3-ft. louvered opening in the back wall of the machine room. The treated air is distributed through some 195 ft. of ducts, the main section of which measures 2 ft. square. A pair of Aerofuse vents are placed in each of the five extension ducts on the ceiling.

In warm weather, the cooling system maintains the temperature in the banquet hall at a maximum of 10° F. below that on the street. Temperature controls of the compensated type, manufactured by Minneapolis-Honeywell Regulator Co., regulate the difference between inside and outside conditions as the weather changes.

'COMPENSATION' CONTROLS

As the street temperature goes down, the difference between outside and inside temperature is gradually lessened. The compensation is made at a rate of one degree drop inside for each drop of 2½° outside. At 72° F. the temperatures become equalized.

In cold weather, the air supply is warmed over steam coils built into the system.

A Frick 4-cylinder "Eclipse" combined unit supplies the refrigeration. The machine is raised 20 in. above the floor to accommodate an auxiliary receiver for the liquid "Freon-12."

The American Blower air conditioning unit, which includes fans, filters, and cooling and heating coils, is suspended from the ceiling of the machinery room.

On the roof of the building is a 200-g.p.m. Binks cooling tower. The water is stored in a tank measuring 4 ft. in diameter by 6 ft. high in the machine room. A Weinman pump circulates the water against a 60-ft. head.

Air Conditioning, Refrigerating Group In Miami Elects Officers

MIAMI, Fla.—The Air Conditioning & Refrigerating Association of Florida, Inc., recently installed new officers for the ensuing year.

They are: J. W. Hendricks, president; E. C. Carroll, vice president; and Cecil E. Kirby, treasurer. Directors are J. J. Harris, Harry C. Higgins, L. L. Jackson, T. A. Swigert, J. R. Turpin, Jr., and R. B. Wiley, Jr.

'S. S. Independence' Is First All Air Cooled Transatlantic Liner

SYRACUSE, N. Y.—A block of ice, measuring 15 by 20 ft. at the base and as high as a 10-story building would be required to equal the daily refrigerating capacity of the *S. S. Independence,* first transatlantic liner to be completely air conditioned, it has been reported.

The new 26,000-ton American Export Liner was recently launched at a Quincy, Mass., shipyard, where her sistership, *S. S. Constitution,* is being completed. On Feb. 10, the *Independence* will sail from New York on her maiden voyage, a 53-day Mediterranean cruise.

The vast air conditioning plants of the *Independence* and *Constitution,* manufactured by Carrier Corp., have a capacity of 840 tons each. The plant consists of two huge centrifugal refrigerating machines, said to be the largest ever installed on shipboard, which serve 28 such systems on each ship, covering different sections of the vessels, including crew quarters which are air conditioned.

An elaborate system to handle the supplies of fresh sea air that are drawn in from the outside is provided.

First, the air is delivered to 18 fan rooms ranging in size from 56 to 600 ft. square and located in strategic places throughout the ships. There, it is treated by a process which consists of pre-heating, dehumidifying, and cooling as necessary, depending upon outside air conditions. All the air is mechanically filtered if the vessel is in port.

Passengers in the individual staterooms will be able to control the temperature of the conditioned air by dialing their preferred temperature. The *Independence* and *Constitution* each have 633 individual controls including crew quarters. In all public spaces there are both temperature and humidity controls.

Air in the staterooms will be changed every six minutes, that in bathrooms 15 times an hour, and that in public rooms about every eight minutes.

Hot water piping to warm the air, and chilled water piping to cool it throughout the two vessels reach a total length of four miles. This is in addition to hot and cold water piping systems to showers, wash basins, and for drinking fountains.

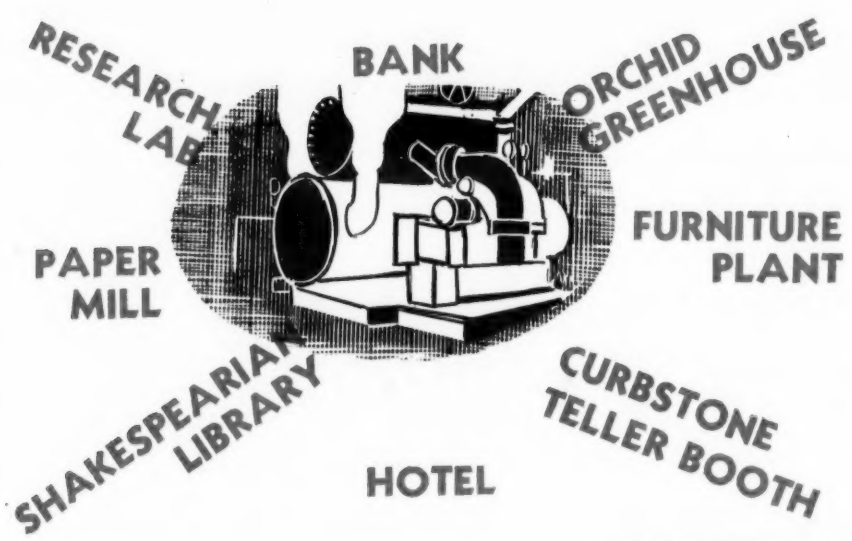
Bell & Gossett Declares Dividend, Employe Bonus

CHICAGO — Directors of Bell & Gossett Co. have declared a regular quarterly dividend of 30 cents per share on the 318,504 shares of common stock outstanding, payable March 1 to stockholders of record Feb. 15, and at the same time authorized the payment of a second special cash bonus of approximately $150,000 out of 1950's profits payable to employes Jan. 29.

The distribution of the employe bonus, according to Clarence E. Pullum, secretary, follows a distribution of a bonus of $100,000 last September and also a year end Christmas bonus, and is in addition to the employes' profit sharing and retirement trust of $435,000 last year.

Can You Top These?

Look 'Em Over!



EVERY ONE

Represents an outstanding and unusual application of central station air conditioning that has previously been publicized in the NEWS. All would make good logical candidates for the $100 first prize in the central station division of the AIR CONDITIONING & REFRIGERATION NEWS contest for the most unusual air conditioning application.

Do you have an installation in your files that could top these for unique and unusual qualities?

If you have—and every air conditioning contractor or dealer has at least one "pet" application in his files—you have an even better chance of bringing home the $100 first prize—or one of the 75 big prizes offered.

Entries in this contest will be given full publicity by the NEWS

BECAUSE What may be an unusual application for air conditioning today can open up an entirely new field for exploitation by the industry tomorrow.

The 1951 air conditioning season is just ahead. It promises to be the biggest and best yet—despite government restrictions.

So, give your industry—and yourself—a big boost by sending in your contest entry today.

ENTER NOW!

THE AIR CONDITIONING & REFRIGERATION NEWS

$1,000 CONTEST

for the Most Unusual Air Conditioning Application

THREE DIVISIONS

1. Packaged Unit 2. Room Cooler
3. Central System

75 PRIZES **(25 In Each Division)**

FIRST $100 SECOND $50 THIRD $25

Next 10 Best Entries $10.

Next 12 Best 1 Copy of "Both Feet on the Ground" by George F. Taubeneck

JUST FOLLOW THESE SIMPLE RULES

1. Submit picture of installation to show unusual aspects.
2. Write brief, complete description including:
   Customer's name, address.
   Type, name of air conditioning equipment used.
   What job equipment is intended to do.
   In what way is application unusual?
   What were installation problems, if any?
   How was sale made?
3. Mail picture, description to
   CONTEST EDITOR,
   AIR CONDITIONING & REFRIGERATION NEWS,
   450 W. Fort St., Detroit 26, Mich.

All air conditioning contractors, dealers, and their employes are eligible to enter.

Duplicate Prizes Will Be Awarded In Case of Ties

Judges Decisions Will Be Final

CONTEST DEADLINE MIDNIGHT MARCH 1, 1951

ATTACH THIS COUPON

AIR CONDITIONING & REFRIGERATION NEWS
450 W. FORT ST., DETROIT 26, MICH.

Here is my entry in the unusual air conditioning application contest.

Picture is: attached ☐ sent under separate cover ☐

Please enter me in the following division:
Room Cooler ☐ packaged unit ☐ central system ☐
(As many separate entries may be made as desired.)

Name .....

Firm .....

Street & No. .....

City ..... *State* .....

Please Check ☐ Distributor ☐ Dealer ☐ Contractor ☐ Service ☐ Other .....

1-29-51

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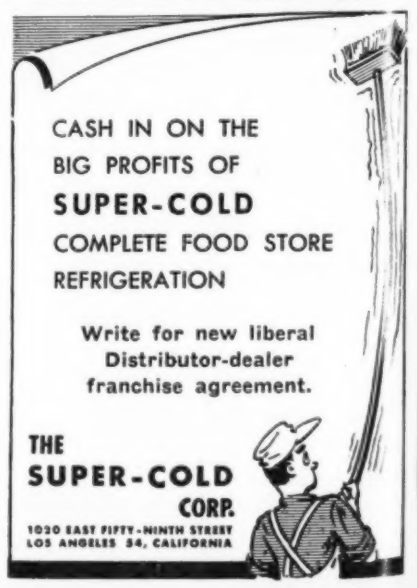
WHY WAIT?

Get your new product info pronto. Use coupon on "What's New" page this issue



Leonard Line for '51 Features Gold Trim To Dramatize 70th Anniversary Celebration

DETROIT—A complete new line of electric refrigerators, electric ranges, and home freezers for 1951 has been introduced by the Leonard Division of Nash-Kelvinator Corp.

Walter Jeffrey, Leonard sales manager, said the new products have been styled to dramatize the company's 70th anniversary celebration this year.

Jeffrey said new "Leonard-gold" trim on the company's 1951 line of eight refrigerators provided particular emphasis for the anniversary year, because of the traditional association of the color gold with longevity and lasting value.

COMPLETELY NEW GROUP ADDED

A completely new 7-cu. ft. size group has been added to the company's refrigerator line. The new "sevens" include Model LAH with a cross-top frozen food chest, and Model LAS with a side-mounted chest. Both are cold from top to base, the first Leonards in this size class to employ the compact long-door design. Cabinets are only 2 ft. wide and 4½ ft. tall.

Both sevens include such deluxe features as adjustable shelves, full-width crispers with refrigerated storage room for 18¾ qts. of fruits and vegetables, and distinctive "Leonard-gold" trim. Ice cube and frozen food storage capacity is 26 lbs. in the LAH, 25 in the LAS.

Three new Leonards in the 8-cu. ft. class are the LDR, featuring a 42½-lb. capacity cross-top freezer with drop-door, LHR, featuring a 33-lb. capacity cross-top freezer with divided doors, and Model LSR featuring a 31½-lb. capacity side-mounted evaporator with separate sliding meat tray.

'EIGHTS' ARE TRIMMED WITH GOLD

All three "eights" are trimmed in gold and equipped with adjustable shelves, two sliding 12-qt. crispers and an electrical outlet in the rear inner wall of the cabinet to accommodate a new butter-chest accessory. The butter-chest plugs into the cabinet outlet, and will store a full pound of butter at temperatures which will keep the butter cold and fresh, yet soft enough for easy spreading.

In the 31-in. cabinet width, the 1951 Leonard refrigerator line includes two long-door models. The 11-cu. ft. LHM features a cross-top frozen food chest with drop-door, with room for 42½ lbs. of frozen foods and ice cubes. Model LSM provides 12 cu. ft. of refrigerated storage space, yet occupies no more floor area than many earlier 6-cu. ft. models. It has a 38-lb. capacity side-mounted evaporator and separate sliding meat tray.

Both are trimmed in gold, and include a full-width sliding 40-qt. crisper, all-purpose 8-qt. "handitray" of clear plastic, adjustable shelves, and electrical outlet to accommodate the butter-chest accessory.

MODEL LTM REFRIGERATED FROM TOP TO BASE

For maximum storage capacity, convenience features and multi-purpose refrigeration, the new line includes Model LTM, a 12-cu. ft. refrigerator-freezer combination. Refrigerated from top to base and trimmed with gold, the LTM features a fully-insulated cross-top freezer with its own separate door, and twin controls for independent regulation of storage conditions in the freezer and the moist-cold compartment below.

The freezer chest will store up to 70 lbs. of frozen foods and ice cubes. It is designed for fast-freezing and long-term storage of frozen foods at zero temperatures.

The moist-cold compartment includes four full-width shelves, two of them adjustable; a half-shelf; an electrical outlet to accommodate the butter-chest accessory; handitray; full-width, 40-qt. sliding crisper; and a new engineering feature called the "humidiplate," which makes possible automatic defrosting and maintenance of proper temperature and moisture conditions for storage of normal and high-moisture-content foods.

Suggested retail prices follow:

Model	Price*
LAS	$224.95
LAH	244.95
LSR	254.95
LHR	274.95
LDR	299.95
LSM	329.95
LHM	369.95
LTM	489.95

*Prices include Federal Excise Tax and Warranty.

Leonard's 1951 electric range line includes three basic types offering a choice of sizes and cooking features, headed by a completely new double-oven model. Forty inches is the new standard width, replacing the former 39-in. series.

HIGH BACK-GUARD WITH CONTROL PANEL TILTED

Models LER-9D, LER-9, and LER-7, all 40 in. wide, are equipped with the popular high back-guard, with control panels tilted toward eye-level for easier reading and adjustment.

Model LER-9D includes a full-size second oven (17 in. by 14¾ in. by 19¼ in.) on the left-hand side, offering complete facilities for simultaneous broiling and baking, double baking, and quantity-cooking and different temperatures. Highlights of the handsome, chrome-trimmed control panel are an electric clock and automatic "meal-minder"; two appliance outlets, one of which may be controlled by the "meal-minder"; a dual-interval minute-timer which sounds a bell when the timed period is over; and "colormatic" controls.

The "colormatic" features permits the homemaker to identify by color the seven degrees of heat offered by the surface units. When the switch-knobs regulating the four surface cooking units are turned on, they reveal a light which shows a different color for each of the seven heat-positions. Control knobs are mounted on the right side of the back-panel, away from the surface units.

Suggested retail prices follow:

Model	Price*
LER-9D	$389.95
LER-9	339.95
LER-7	309.95
LER-3	219.95
LER-2	199.95
LER-14	174.95
LER-1	164.95

*Prices include Federal Excise Tax.

Dorby Plans To Stop Civilian Output of Cookers, Broilers

CHICAGO—Civilian production of an infrared cooker and broiler made by Dorby Corp. here may stop entirely by the middle of the year. S. N. Becker, president, anticipates that it will take that long to fill current commitments.

Output of the infrared cooker will be directed to the armed services.

MISSING SOMETHING?
More and better useful information is yours for the asking. See "What's New" page.

NEMA 10-Month Refrigeration Sales Hit 5,043,110

Complete Refrigerators Only—Sales by Sizes—Units
Summary for October and First 10 Months, 1950

OCTOBER (16 Companies)

	Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1.	Less than 4 cu. ft.	288	....	....	288
2.	4 cu. ft.	3,008	....	895	3,903
3.	5 cu. ft.	31	....	....	31
4.	6 cu. ft.	39,889	3	5,156	45,048
5.	7 cu. ft.	56,847	402	2,700	59,949
6.	8 cu. ft.	126,097	202	6,730	133,029
7.	9 cu. ft.	67,838	6	2,053	69,897
8.	10 cu. ft.	58,139	605	926	59,670
9.	11 and 12 cu. ft.	47,193	2	1,421	48,616
10.	13 cu. ft. and up	....	....	....	....
11.	**Total**	**399,330**	**1,220**	**19,881**	**420,431**

FIRST 10 MONTHS (16-13 Companies)

	Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1.	Less than 4 cu. ft.	2,362	....	244	2,606
2.	4 cu. ft.	33,736	....	3,708	37,444
3.	5 cu. ft.	385	....	2	387
4.	6 cu. ft.	511,348	1,409	37,076	549,833
5.	7 cu. ft.	614,217	1,437	29,759	645,413
6.	8 cu. ft.	1,646,648	642	50,479	1,697,769
7.	9 cu. ft.	1,040,025	703	16,888	1,057,616
8.	10 cu. ft.	447,158	1,084	9,275	457,517
9.	11 and 12 cu. ft.	572,988	63	9,596	582,647
10.	13 cu. ft. and up	11,813	....	65	11,878
11.	**Total**	**4,880,680**	**5,338**	**157,092**	**5,043,110**

Participating Companies: Admiral Corp.; Avco Mfg. Corp.; The Coolerator Co.; Deepfreeze Appliance Div., Motor Products Corp. (in 7-1-50); Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint, Inc.; International Harvester Co.; Kelvinator Div., Nash-Kelvinator Corp.; A. J. Lindemann & Hoverson Co. (in 2-1-50); Norge Div., Borg-Warner Corp.; Refrigeration Div., Philco Corp. (in 8-1-50); Sanitary Refrigerator Co.; Seeger Refrigerator Co.; Westinghouse Electric Corp.

Revised Summary of Freezer Sales for 9 Months

Electric Farm and Home Freezers—Complete—Sales by Sizes—Units

Farm and home freezers complete with high and low side and cabinet, where 50% or more of the net cabinet capacity is designed for the freezing and/or storage of frozen foods.

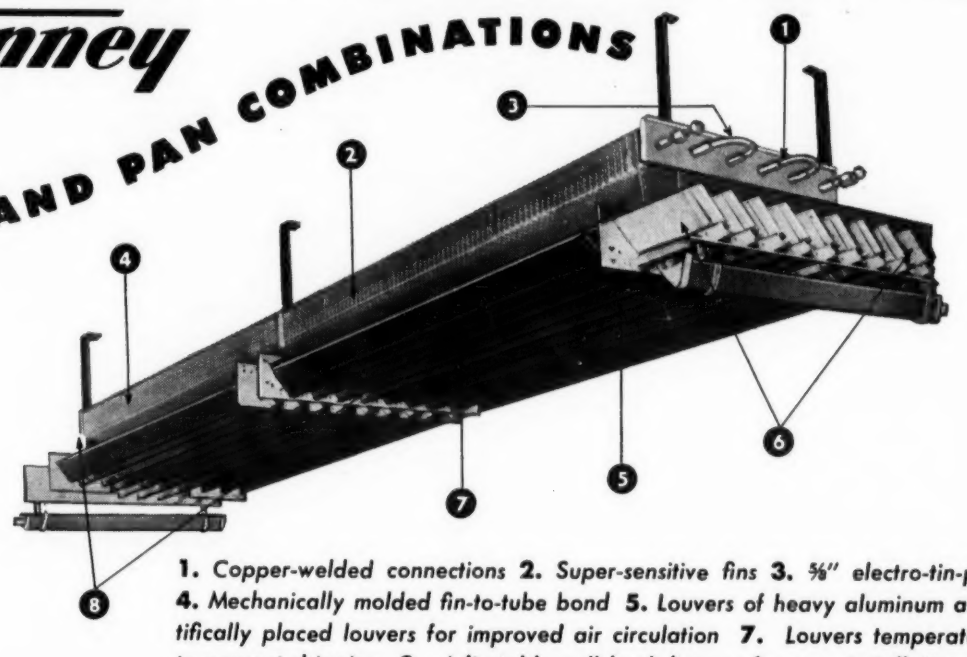
***REVISED SUMMARY FOR FIRST NINE MONTHS, 1950 (26-29 Companies)**

	Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1.	4.9 cu. ft. and under	24,020	....	408	24,428
2.	5.0 to 6.9 cu. ft.	18,879	96	973	19,948
3.	7.0 to 8.9 cu. ft.	*83,833	2	1,665	*85,500
4.	9.0 to 10.9 cu. ft.	40,408	50	272	40,730
5.	11.0 to 12.9 cu. ft.	*148,974	1	964	*149,939
6.	13.0 to 16.9 cu. ft.	83,065	3	77	83,145
7.	17.0 to 20.9 cu. ft.	60,782	34	111	60,927
8.	21.0 to 29.9 cu. ft.	3,471	....	2	3,473
9.	30.0 to 39.9 cu. ft.	2,684	....	....	2,684
10.	40.0 to 49.9 cu. ft.	14	....	....	14
11.	50.0 to 59.9 cu. ft.	....	....	....	....
12.	60.0 cu. ft. and over	39	....	....	39
	Total—All Models	***466,169**	**186**	**4,472**	***470,827**
13.	**Total Upright Models (Included in above)**	**14,258**	**96**	**41**	**14,395**

Participating companies: Avco Mfg. Corp.; August G. Barkow Mfg. Co.; Beverly Mfg. Co.; Ben-Hur Mfg. Co.; Carrier Corp.; The Coolerator Co.; Deepfreeze Appliance Div., Motor Products Corp.; Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint, Inc.; International Harvester Co.; Kelvinator Div., Nash-Kelvinator Corp.; A. J. Lindemann & Hoverson Co. (in 3-1-50); Masterfreez Home Locker Mfg. Co.; The Maytag Co.; Norge Div., Borg-Warner Corp.; Portable Elevator Mfg. Co.; Refrigeration Div., Philco Corp. (in 8-1-50); Revco, Inc.; Sanitary Refrigerator Co.; Schaefer, Inc.; Emil Steinhorst & Sons, Inc.; Seeger Refrigerator Co.; Victor Products Corp.; Westinghouse Electric Corp.; Wilson Refrigeration, Inc.; Brewer-Titchener Corp. (out 1-1-50); Oregon Ref. Co. (out 3-1-50); Sub-Zero Freezer Co., Inc. (out 6-1-50); Whiting Corp. (out 2-1-50).

Tenney

COIL AND PAN COMBINATIONS



1. Copper-welded connections 2. Super-sensitive fins 3. ⅝" electro-tin-plated tubing 4. Mechanically molded fin-to-tube bond 5. Louvers of heavy aluminum alloy 6. Scientifically placed louvers for improved air circulation 7. Louvers temperature-equalized to prevent dripping 8. Adjustable pull hook hanger for easy installation and cleaning

Coils And Coil & Pan Combinations
For 8 ft. Walk-In-Coolers

BOX SIZE	BTU/HR 15° TD	SQ. FT. SURF.	NO. COILS	COIL AND PAN COMBINATIONS MODEL NO.	DIMENSIONS IN INCHES D	W	L	COILS ONLY MODEL NO.	DIMENSIONS IN INCHES D	W	L
5 x 4	2496	161	1	548P	13	24	46	C548	7	21	40
5 x 5	3094	199	1	558P	13	27	48	C558	7	24	42
6 x 4	3120	201	1	648P	13	24	54	C648	7	21	48
6 x 5	3225	206	1	658P	10½	38	57	C658	3	35	50
6 x 6	4160	274	1	668P	13	32	54	C668	7	28	48
14 x 12	10500	614	2	1248P	10½	32	135	C1248	3	28	126
14 x 14	12075	710	2	1448P	10½	38	126	C1448	3	35	119
16 x 8	9240	535	2	1688P	10½	24	154	C1688	3	21	148
16 x 10	10692	618	2	1608P	10½	24	176	C1608	3	21	170
16 x 12	12636	783	2	1628P	10½	24	176	C1628	3	21	170
16 x 14	14256	825	2	1648P	10½	24	176	C1648	3	28	170

Coils And Coil & Pan Combinations
For 10 ft. Walk-In-Coolers

BOX SIZE	BTU/HR 15° TD	SQ. FT. SURF.	NO. COILS	COIL AND PAN COMBINATIONS MODEL NO.	DIMENSIONS IN INCHES D	W	L	COILS ONLY MODEL NO.	DIMENSIONS IN INCHES D	W	L
5 x 4	2925	192	1	541P	13	35	40	C541	7	31½	33
5 x 5	3861	249	1	551P	13	35	47	C551	7	31½	41
6 x 4	3432	220	1	641P	13	24	58	C641	7	21	52
6 x 5	3780	242	1	651P	13	24	57	C651	7	21	50
6 x 6	4570	292	1	661P	13	32	58	C661	7	28	52
14 x 12	12480	777	2	1241P	10½	32	134	C1241	3½	28	128
14 x 14	13125	766	2	1441P	10½	38	135	C1441	3½	35	128
16 x 8	11544	716	2	1681P	10½	24	162	C1681	3½	21	154
16 x 10	11880	689	2	1611P	10½	32	149	C1611	3½	28	143

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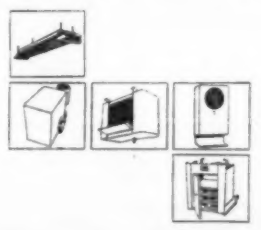


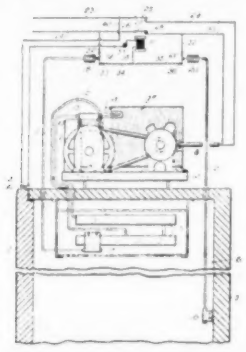
7516

Tenney
Manufacturers of Automatic Temperature, Humidity and Pressure Control Equipment

PATENTS

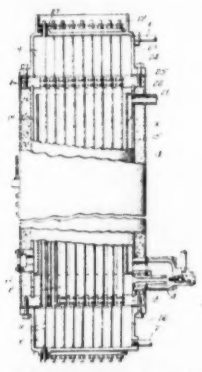
Week of Aug. 22 (Continued)

2,519,700. MOTOR CONTROL FOR REFRIGERATION SYSTEMS. George E. Radcliffe, Cincinnati, Ohio. Application July 17, 1945, Serial No. 605,503. 5 Claims. (Cl. 62—4.)



1. A cooler comprising a cabinet having an access opening and a door for closing same, an electric motor driven refrigerator unit including an evaporator within the compartment for transferring heat therefrom, means controlled by temperature changes within the compartment for initiating a running period of the refrigerator unit, followed by a defrosting period for the evaporator, in succession, and means operative upon opening and subsequently closing the cabinet door, to preclude resumption of the running period until defrosting of the evaporator is complete.

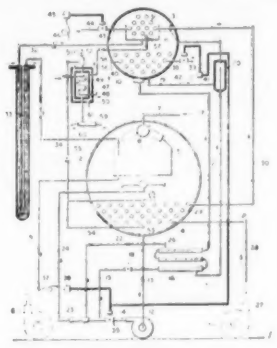
2,519,844. COOLING TANK. Harry G. Mojonnier, Oak Park, Ill. Application May 3, 1946, Serial No. 667,227. 11 Claims. (Cl. 62—141.)



7. In a cooling apparatus, transmission means for a fluid which is to be cooled, said transmission means including a tube through which said fluid flows, a pair of tube sheet supporting the opposite ends of the tube, refrigerant circulating means for cooling the outer surface of said tube to extract heat from said fluid, a resilient member disposed within and extending lengthwise of said tube and shaped to conform to the inner wall of said tube and disposed closely adjacent thereto, whereby the fluid flows in a thin film along said inner wall, said member having a wall surface of a strength resistant to pressure materially less than the strength of the tube, whereby to absorb stresses which would otherwise be produced in said tube and which would result in injury thereto when said fluid freezes, and a pair of tube sheets disposed outwardly of said first named tube sheets and supporting the opposite ends of said resilient member.

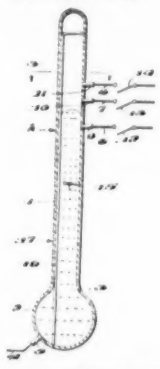
2,520. ABSORPTION REFRIGERATION SYSTEM. Alexis A. Berestneff, Syracuse, N. Y., assignor to Carrier Corp., Syracuse, N. Y., a corporation of Delaware. Application May 27, 1948, Serial No. 29,527. 10 Claims. (Cl. 62—5.)

1. In an absorption refrigeration system, the combination of a member having a region in which non-condensible gases collect and means for removing the non-condensible gases from the member, said means comprising a casing, a coil in said casing through which cooling medium is passed, a steam ejector connected to the casing, a line connecting the ejector with said member, passage of steam through the ejector withdrawing non-condensible gases from said member and forwarding the same to the casing, the steam being placed in heat exchange relation with said coil, and a water ejector connected to the casing, passage of water through the water ejector withdrawing condensate and non-condensible



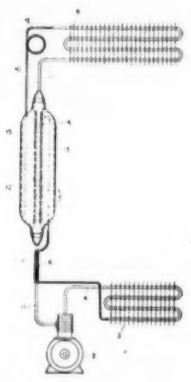
gases from the housing and removing them from the system.

2,519,853. THERMOSTATIC CONTROL. William T. Rossell, New York, N. Y., assignor to Transit Research Corp., New York, N. Y., a corporation of New York. Application Sept. 26, 1946, Serial No. 699,408. 3 Claims. (Cl. 200—141.)



1. In a mercury thermostat, a sealed glass-like tube of capillary size terminating at its lower end in a bulb and containing mercury, vertically spaced electrical terminals extending through the walls of said tube and integrally united therewith, and a metallic member extending longitudinally within said tube and residing always in spaced relation with all of said terminals.

2,520,045. REFRIGERATION SYSTEM, INCLUDING CAPILLARY TUBE. William L. McGrath, Syracuse, N. Y., assignor to Carrier Corp., Syracuse, N. Y., a corporation of Delaware. Application Jan. 9, 1947, Serial No. 720,955. 6 Claims. (Cl. 62—8.)



1. In a refrigeration system, the combination of a compressor, a condenser and an evaporator disposed in the closed circuit, pressure in said receiver being responsive to suction temperature of the evaporator and varying proportionately in response to variation in suction temperature, a restriction disposed in the line connecting the condenser and the receiver metering flow of refrigerant to the receiver, said restriction being disposed in heat exchange relation with the suction line, and a second restriction disposed in the line connecting the receiver and the evaporator limiting flow of refrigerant to the evaporator, receiver pressure being imposed against one side of the second restriction whereby less refrigerant is supplied to the evaporator as the load imposed upon the evaporator decreases and a greater quantity of refrigerant is supplied to the evaporator as the load imposed thereon increases.

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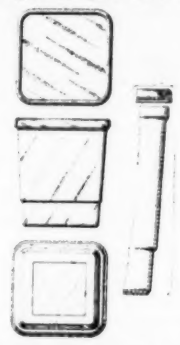
1-29-51

DESIGNS

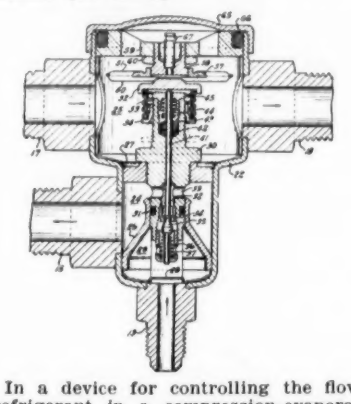
159,811. REFRIGERATOR CONTAINER. Donald W. Hill., Decatur, Ill., assignor to Crown Cork Specialty Corp., Decatur, Ill., a corporation of Illinois. Application December 20, 1948, Serial No. 150,273. Term of patent 14 years. (Cl. D44—1.)



The ornamental design for a refrigerator container, substantially as shown.

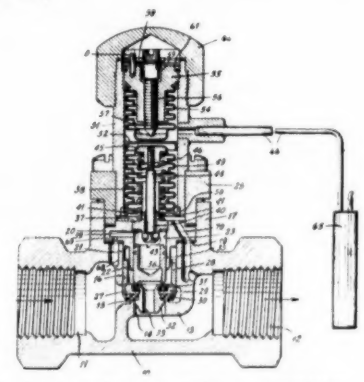
Week of Aug. 29

2,520,191. REFRIGERANT EXPANSION VALVE. Clarence L. Aughey and Lourdes V. McCarty, Milwaukee, Wis., assignors to Automatic Products Co., Milwaukee, Wis., a corporation of Wisconsin. Application June 16, 1944, Serial No. 540,702. 7 Claims. (Cl. 62—8.)



1. In a device for controlling the flow of refrigerant in a compression-evaporation type refrigerating system, a casing having a plurality of chambers separately receiving the supply of refrigerant from the compressor to the evaporator and the return of refrigerant from the evaporator to the compressor, a valve in the casing controlling the flow of refrigerant through the supply chamber, a flexible walled chamber in the return chamber charged with a fluid completely vaporizable at a predetermined temperature to establish a maximum pressure therein, said chamber being variable in volume responsive to changes in temperature of the refrigerant flowing through the return chamber provided said refrigerant pressure is not in excess of said maximum, means mounting the flexible walled chamber in heat insulated relation to the casing and to the valve and means transmitting movements of the flexible walled chamber to the valve.

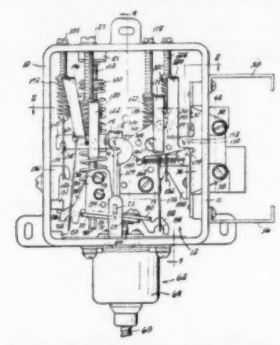
2,520,216. SNAP ACTION SUCTION VALVE. Edward P. Kounovsky and John E. Dube, St. Louis, Mo., assignors to Alco Valve Co., University City, Mo., a corporation of Missouri. Application Sept. 17, 1945, Serial No. 616,686. 18 Claims. (Cl. 236—80.)



1. In a valve, an inlet, a partition, a port in the partition, and an outlet, a main valve, a main piston connected for operating the main valve, a passage through the main piston, connecting the top side of the piston to the outlet side of the valve, a pilot piston, the lower side of the main piston being subjected to inlet pressure and having an effective pressure receiving area greater than that of the port, a control valve operated by the pilot piston to open and close the passage through the main piston, the pilot piston being subjected to the same pressure below it that acts on the top of the main piston and having a pressure receiving area greater than the size of the passage, the pilot piston being adapted to admit restricted flow of gas from above it to below it, constricted means independent of the position of the main valve, admitting inlet pressure to above the pilot piston comprising a constricting passage between and directly connecting the inlet and space above the pilot piston, an exhaust passage from above the pilot piston, a pilot valve to control the exhaust passage, means to open and close the pilot valve comprising a thermal bulb and expansible chamber, filled with liquid, and means to adjust the volumetric capacity of the chamber.

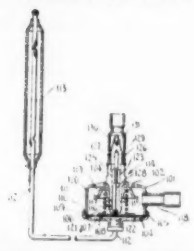
2,520,370. CONTROL DEVICE. Elmer Bradley Offutt, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Application Nov. 23, 1945, Serial No. 630,488. 11 Claims. (Cl. 200—140.)

1. In a mechanism of the character described, a pivoted lever, a first adjustable spring member constantly tending to rotate the lever in one direction, a condition responsive member tending to rotate the lever in the opposite direction, a second pivoted lever, a link connecting the first pivoted lever with the second pivoted lever, a second adjustable spring tending to rotate the first and second levers in the said opposite direction, a



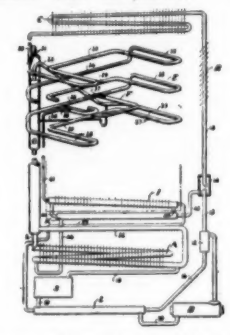
second link connecting the first lever with a third pivoted lever, and a third adjustable spring means tending to rotate the first and third levers in the said one direction.

2,520,386. REFRIGERATION EXPANSION VALVE. Earnest J. Dillman, Detroit, Mich., assignor to Detroit Lubricator Co., Detroit, Mich., a corporation of Michigan. Application July 17, 1944, Serial No. 545,372. 9 Claims. (Cl. 137—153.)



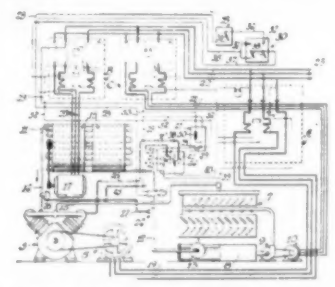
1. In a refrigeration expansion valve, a casing having an annular seat and having a passageway therethrough concentric with said seat, a tubular valve seat member in said passageway, a diaphragm supported at its periphery on said seat and forming an internal wall of said casing, a flexible reinforced spider resting at its periphery on said seat and supporting said diaphragm member against inward valve opening movement, an abutment plate having a recess facing said spider and having an aperture therethrough opening into said recess, said aperture and recess being concentric with said seat member, a tubular valve member in said passageway on the opposite side of said seat member from said diaphragm, said valve member having an end portion engageable with said seat member, a laterally flexible resilient member extending loosely through the bore of said valve seat member from said diaphragm and fitting the bore of said valve member, said flexible member extending through said aperture and having a head laterally located by the wall of said recess, means permanently joining said spider and said plate together to provide a unitary structure holding said head in said recess and concentric with said valve seat member, said diaphragm being free to move away from said spider, a spring acting against said plate and tending to hold said valve member against said seat member, and means sealing said flexible member in said valve member bore.

2,520,530. ABSORPTION REFRIGERATION. Curtis C. Coons, North Canton, Ohio, assignor to The Hoover Co., North Canton, Ohio, a corporation of Ohio. Application Aug. 31, 1946, Serial No. 694,370. 27 Claims. (Cl. 62—119.5.)



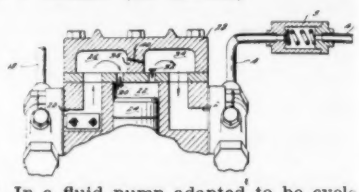
1. In an absorption refrigerating apparatus of the pressure equalized type having an evaporator, an absorber, and a rectifier; a second evaporator, a second absorber arranged to be cooled by said first mentioned evaporator, means for conducting lean inert gas from said said second absorber to said second evaporator, means for supplying refrigerant to said second evaporator and means for conducting condensate from said rectifier to said second absorber.

2,520,535. CONTROL SYSTEM FOR AIR CONDITIONING APPARATUS. Warren Ewald and Charles E. Miller, Minneapolis, Minn., assignors to United States Air Conditioning Corp., Minneapolis, Minn., a corporation of Delaware. Application June 19, 1948, Serial No. 34,004. 2 Claims. (Cl. 62—4.)



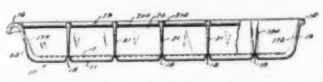
1. A short cycling prevention circuit for refrigeration apparatus of the kind described, which embodies therein a motor driven refrigerant compressor, an operating circuit for said motor, a thermostatically controlled switch having open and closed positions and responsive to the temperature of the medium being cooled, a pressure actuated switch having open and closed positions and operatively responsive to a relatively high pressure of refrigerant in the suction side of said apparatus to establish its closed position, said thermostatically controlled switch and said pressure actuated switch each forming a part of the control for the operating circuit for said motor, and a third switch in said circuit having open and closed positions and forming another part of the control for said circuit, through said pressure operated switch, said third switch being open and closed with said thermostatically controlled switch and when open preventing the closing of said circuit through said pressure operated switch and the short cycling operation of said motor in the closing of said pressure operated switch due to said relative high pressure of refrigerant in said suction side of the apparatus, and produced by a leaking back of the same to said last mentioned switch when said thermostatically controlled switch is in its open position.

2,520,674. COMPRESSOR UNLOADER. Oskar Henry Buschmann, Sidney, Ohio, assignor to Copeland Refrigeration Corp., Sidney, Ohio, a corporation of Michigan. Application May 14, 1947, Serial No. 747,967. 7 Claims. (Cl. 62—115.)



1. In a fluid pump adapted to be cycled, a head structure having an inlet compartment and an outlet compartment, a dividing wall separating said compartments and having a bleed passageway therethrough continuously communicatively connecting said compartments.

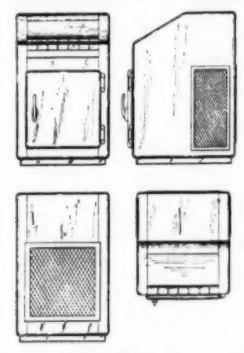
2,520,892. ICE TRAY. John H. Roethel, Detroit, Michigan, assignor to Roethel Engineering Corp., Detroit, Mich.



1. In a liquid freezing tray, a pan-shaped member having a bottom and surrounding upwardly and outwardly inclined side walls diminishing in thickness toward said bottom, the latter being formed with longitudinal and transverse intersecting ribs projecting upwardly at their ends into the side walls.

DESIGNS

159,914. ICE CUBE MAKER. Kenneth W. Mackenzie, Hudson, Wis., assignor to United Refrigerator Co., Hudson, Wis.



The ornamental design for an ice cube maker, substantially as shown and described.

AVAILABLE FOR LICENSE

General Electric Company has placed the following patents on the Register as available for non-exclusive licensing on reasonable terms.

Application for license should be addressed to: Manager, Patent Department, General Electric Company, 1 River Road, Schenectady, N. Y.

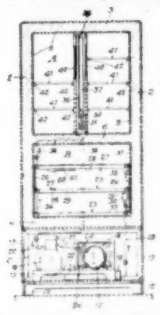
Pat. 2,509,011. HEAT TRANSFER APPARATUS. Patented May 23, 1950. Group 35—84. Reg. No. 38,159.

Pat. 2,511,666. AIR DEHUMIDIFIER FOR COMPARTMENTS. Patented June 13, 1950. Group 35—84. Reg. No. 38,169.

Pat. 2,511,677. REVERSIBLE TEMPERATURE CONTROL VALVE. Patented June 13, 1950. Group 35—84. Reg. No. 38,172.

Week of September 5

2,521,063. TWO-TEMPERATURE REFRIGERATOR. Herman W. Kleist, Chicago, Ill., assignor to Dole Refrigerating Co., Chicago, Ill., a corporation of Illinois. Application March 29, 1946, Serial No. 658,322. 1 Claim. (Cl. 62—95.)



In a refrigerator, an insulating housing including walls defining and surrounding two separate storage compartments, said storage compartments each having an access aperture, insulating door means adapted removably to close said access apertures, and means for maintaining an above freezing temperature in one said compartment and a below freezing temperature in the other said compartment, including a horizontal plate in the low temperature compartment and a vertical plate in the high temperature compartment, said vertical plate being positioned to divide the high temperature compartment into two separate storage zones at opposite sides of said last named compartment, an air pervious partition closely adjacent each side of said vertical plate, and shelves supported between said air pervious partitions and the opposite sides of said high temperature compartment, and means for circulating a volatile refrigerant through said plates.

(To Be Continued)

FOR THE REFRIGERATION & AIR CONDITIONING INDUSTRY

CAMERA REPORT

3..H BIRTHDAY is being celebrated this year by Servel's Electric Refrigeration Div. The event prompts this picture showing O. J. Dail (third from right), division general manager, pointing to a current ⅓-hp. Servel sealed condensing unit to compare it with the company's first unit of same horsepower built in 1921. Others pictured are W. J. Aulsebrook, chief inspector; territory managers Carl L. Olin, James A. Madden, James R. Fleming, W. F. Cissell.

NEW OFFICERS of Refrigeration Contractors Association of New Jersey were recently installed by William C. Nowels (front row, left), legal counsel. Next to Nowels are Lee L. Richardson, Nutley, president, and M. Dee Petillo, Nutley, vice president. In back row are Robert Anderson, Bogota, secretary-treasurer; Anthony G. Dietl, Newark, past president and director; Harold Rohloff, Dover, sergeant-at-arms.

DISPLAY KIT prepared for International Harvester dealers features a flasher unit die-cut to shape of 1951 I-H refrigerator. Selling message is changed by flasher in center, which also highlights Harvester slogan. Kit also contains window streamers, banners, and full-line posters. The point-of-sale kit was prepared for I-H dealers by Chicago Show Printing Co.

BOWLING PARTY: Compensation for the wives who sit home while Detroit servicemen, contractors, and parts wholesalers spend one night a week bowling in the refrigeration league is provided by a rollicking mid-season dinner-dance.

WHO'S WHO: Seated at the head table during this year's party were (l. to r.) Mary Wynn, Mr. and Mrs. John Wood, Mr. and Mrs. Charles Heemstra (he's president), Mr. and Mrs. Alex McGhie (vice president), Mr. and Mrs. Archie MacNicol, and Mr. and Mrs. Wm. Schemers (who is executive secretary of the local contractors association as well as the league).

PENNSYLVANIA FARM SHOW in Harrisburg drew thousands of visitors, who saw this exhibit of Victor Products Corp. Pictured in Victor booth is George R. Noel, district sales representative in north Atlantic territory. Featured in the booth were 1951 Quickfreeze 21½-cu. ft. model and new-style milk cooler, the "Level-Load." A plexiglas front on latter brought operation of cabinet into full view. Also included in the equipment exhibit were conventional type commercial milk coolers as well as a front section of walk-in room.

'Hotpoint House of 50's' With Push-Button Kitchen, Laundry Opens In East

PLANDOME MILLS, N. Y.—"The Hotpoint House of the Fifties," a new all-electric house incorporating a push-button kitchen and laundry and many other advanced automatic products was opened here recently by James J. Nance, president, Hotpoint, Inc.

Leading builders and architects in the New York area inspected the house, after which it was opened to the public.

Speaking at a press preview, Nance said that the House and its variety of equipment is a completely integrated unit dramatizing the advancements made in home building and related industries over the last 25 years. He emphasized that all products are standard, and are available for medium income families.

The kitchen and laundry were designed by Hotpoint specialists to mechanize time consuming chores. The room is made up of matched appliances arranged for assembly-line performance.

The kitchen appliances include a combination refrigerator-freezer, an automatic dishwasher, an 8-cu. ft. freezer, a double-oven push-button range, and matched base and wall cabinets.

The laundry adjoins the kitchen and has appliances located along one wall. These are arranged so that clothes move from the hamper to the automatic washer to the drier to the ironer. The combination room is accessible to the front entrance, the dining room, and the garage entrance.

'50 Sees Record Sales of Washers, Ironers, Driers; Castner Heads AHLMA

CHICAGO—Record-breaking sales were chalked up in 1950 for household washers, ironers, and driers, according to the American Home Laundry Manufacturers Association.

Washer sales hit 4,000,000 compared with 3,033,106 in 1949, an increase of 32%. Drier sales jumped 185%, 300,000 compared to 105,000 the preceding year. Ironers were up 25%, 400,000 being sold in 1950, 320,000 in 1949.

Shortages of materials, however, have already been felt and will cut 1951 production, the association declares.

Elected president of the group's annual meeting was George P. Castner, general manager of Beam Mfg. Co.; F. M. Mitchell, manager of Frigidaire's laundry equipment sales, is first vice president; B. J. Hank, president, Conlon-Moore Corp., second vice president and C. E. Anderson, manager of the General Electric Co. home laundry equipment division, third vice president.

WHY WAIT?

Get your new product info pronto. Use coupon on "What's New" page this issue

Admiral's Orders Reach $100 Million for Quarter

CHICAGO — Admiral Corp. took orders for $100,000,000 worth of merchandise for the first quarter of 1951, nearly twice the dollar volume of orders placed last year, Wallace C. Johnson, sales vice president, announced at the end of the company's national distributor convention held here recently.

He commented that shortages of materials would only permit Admiral to manufacture about 75 to 80% of the merchandise ordered, but that orders not filled in the first quarter would be carried over to the second quarter.

Isken Named Mfg. Engineer Of G-E's Allentown Works

ALLENTOWN, Pa. — J. R. Isken has been appointed manufacturing engineer of General Electric Co.'s Allentown Works, it has been announced by O. W. Nelson, works manager.

Isken, a graduate of Stanford university, came with the company in 1948 as quality control engineer of the local plant. Last year he was put in charge of production engineering and quality control.

Sales Messages Change In Die-Cut Flasher Unit Of I-H Dealer Display Kit

CHICAGO—A flasher unit die-cut to the shape of the 1951 International Harvester refrigerator is the central piece in a point-of-sale display kit prepared for International Harvester dealers by the Chicago Show Printing Co. here.

The flasher unit is stripped with Mystik for ease of application and bond to the refrigerator. The flasher in the center changes the selling message and highlights the I-H slogan "New . . . And Years Ahead."

Another part of the display kit is a set of Mystik plaks printed in a rainbow of colors to draw attention to the featured colored plaks in the refrigerator's door handle. The door handle plaks are designed to blend with or match the customer's kitchen color scheme.

Also in the kit are 12 by 36-in. streamers for window displays, a jumbo size drill banner measuring 118 by 42 in., a taffeta wall banner measuring 38 by 46 in., and full line posters 28 by 38 in. for poster frames.

The first two of these items are done in four-color process work.

FOR THE REFRIGERATION & AIR CONDITIONING INDUSTRY

PRINTING and DIRECT MAIL

Complete letterpress service of superior quality now available. Layout, art work, copy consultation, composition, printing, binding, and shipping. Write for quotation on your next job.

Lists covering important segments of the industry. Typewriter and machine addressing. Multigraphed, printed, or Robotyped reproduction. Complete mailing service. Send for Direct Mail Rate List.

DIVISION OF BUSINESS NEWS PUBLISHING CO

450 WEST FORT STREET, DETROIT 26, MICHIGAN

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" $5.00 per insertion. Limit 50 words. 10¢ per word over 50.

RATES for all other classifications $7.50 per insertion. Limit 50 words. 15¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count. Please send payment with order.

POSITIONS WANTED

SALES MANAGER—air conditioning and refrigeration. Excellent background of engineering and store layout. Good closer; capable organizer, small or large sales force. Dependable; go anywhere. Employed at present; wants to change. BOX 3661, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

SALESMAN FOR Hussmann distributor in San Diego, California. Must be experienced in food store layout and equipment. Salary, expenses and bonus. This is an excellent opportunity for the right man. Must have proven record and best references, none other need apply. WRIGHT REFRIGERATION, INC., 4025 Pacific Highway, San Diego, California.

REFRIGERATION & store fixture salesman capable of estimating and laying out work. Exceptional proposition offered to the party with a successful background. Distributor of leading nationally advertised lines located in Indianapolis, Ind. Write giving experience, age, marital status, and enclose photograph. Replies strictly confidential. BOX 3662, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

WHOLESALE SEALED unit rebuilding. We will rebuild and convert your unit to "Freon-12." One year guarantee. Write for price list and shipping instructions. ADVANCE REFRIGERATION COMPANY, 829 East McNichols Road, Detroit 3, Mich.

NEW REFRIGERATION condensing units for sale. We are liquidating our entire refrigeration stock. The following units are available: one Worthington WUA 150-FS; two Worthington 3HS4-5W5; three Worthington 3HS2-3W3. Call or wire DELTA HEATING COMPANY, 512 West Peachtree, N. E., Atlanta, Georgia.

LIMITED OFFER on water coolers, bottle type. All brand new, of popular manufacture, complete with condensing unit. Exceptional value at $109.00 each net FOB NYC, crated. Write, wire or phone GENERAL REFRIGERATORS CORPORATION, 678 Broadway, New York 12, N. Y. GRamercy 3-1222.

WROUGHT COPPER return bends: 2,000 pieces ½" O.D. x 2" centers, 14¢ each; 2,000 pieces ⅝" O.D. x 2½" centers, 18¢ each; 2,000 pieces ¾" O.D. x 2½" centers, 25¢ each. Terms: net cash on delivery f.o.b. cars Seattle; freight allowed anywhere in U.S. JOHN P. HERBER & CO., INC., 2012 Exchange Bldg., Seattle, Wash.

PROMINENT BRAND equipment for sale: 50—New fan motors, frame K850, volts 115, cycle 60, amps .45, RPM 1550. No. FM149887XB Ea. $4.50 F.O.B. Oakland, Calif. SIMPLEX MANUFACTURING COMPANY, 1135 Third Street, Oakland 7, California.

BUSINESS OPPORTUNITIES

ENGLISH MANUFACTURERS of domestic refrigerators either complete or hermetic and absorption type units and evaporators separately for local assembly, wishes to contact lively agents in all U.S.A. states. Make use of devaluation while it lasts. Airmail at once for free lists and particulars. LONGFORD ENGINEERING CO., LTD., Dept. A.C., Bognor, Regis, Sussex, England.

ENGINEERING FIRM with no distribution facilities in field will sell tested motorless carbonator to responsible firm or individual. All rights, tools, fixtures, and inventory included. War time restrictions should make this carbonator interesting since it uses no motor or pump. Simple construction, low cost unit. Performance records available. Fine opportunity for someone in the business. BOX 3654, Air Conditioning & Refrigeration News.

FOR SALE: One of the largest and oldest independent refrigeration service businesses in central Florida. Two new trucks, medium inventory, and manufacturer's service contract. Year around business. Disposal due to health of partner. BOX 3660, Air Conditioning & Refrigeration News.

Deepfreeze Facilities Seen Adequate for Defense, Civilian Use

CHICAGO — With its expanded production facilities, Deepfreeze will be able to do its part in the defense program and "still give you what you want," barring all-out war, L. J. Sorensen, vice president of Motor Products Corp. and general manager of Deepfreeze, told distributors at the latter's national sales conference.

Sorensen said a full-scale war is the only thing that will prevent the company from continuing its expansion program. He reported that Deepfreeze has been testing substitute materials for some time and will have them ready for use if needed.

The two-day conference, held in Sheraton hotel here recently, was opened by F. L. Sacha, assistant general sales manager, who acted as master of ceremonies throughout the meeting. Sacha presented B. G. Sanderson, general sales manager, who gave the opening address.

'WE CAN'T WAIT FOR THINGS TO HAPPEN'

Emphasizing that "we can't wait for things to happen," Sanderson said Deepfreeze won't "stand at ease" but will move forward. He urged the distributors to face the future with optimism and determination, declaring that a good sales volume can be realized despite restrictions on credit and materials.

Sanderson's talk also included remarks on the value of the Deepfreeze franchise. This topic was illustrated by a skit on the theme "Easy to Live With."

Sanderson concluded by introducing key production, engineering, administrative, and sales personnel. Sorensen then presented executives of Motor Products.

Next came the presentation on ranges and water heaters by Fred C. Lowber, manager of range and water heater sales. These models had been introduced earlier.

The afternoon session was devoted to home freezers and refrigerators. W. S. Hall, manager of home freezer sales, handled the presentation on that product, while P. R. Lowcher, manager of refrigerator sales, introduced the 1951 refrigerator models, described previously in the NEWS.

In citing statistics on home freezer sales, Hall displayed charts showing that increases in Deepfreeze sales in various periods exceeded over-all industry gains. Nevertheless, he stressed, there is need for more aggressive selling. He pointed up this fact by noting that the industry has reached a saturation of only 7.2% and that only 12% of freezer owners covered in a recent survey first became interested in a freezer through talking to a dealer or dealer salesman.

MODEL TO BE PRODUCED IN JUNE IS SHOWN

Hall wound up his talk by introducing one model of a new line of home freezers to be brought out in June. Several new features were incorporated in the models.

Rhea Shields, Deepfreeze director of home economics, opened the second morning session with a talk on the value of a home economist in building sales. She urged the addition of a home economist to sales organizations now without one, claiming that "she'll pay her own way." She quoted distributor and dealer letters reporting how the activities of home economists had increased volume.

Then came a presentation on product service in which S. J. Seibert, manager of that department, outlined the benefits of a good service organization. During the presentation, Seibert reported results of a national survey to determine what per cent of volume dealers of all types attributed to the work of their service department. The over-all average, he said, was 33%.

Samples of the sales promotion materials prepared for 1951 were shown by W. A. Costello, manager of sales promotion. Deepfreeze's national advertising program was described by N. W. LeVally, president of the LeVally, Inc., agency, who presented some of the advertisements and other materials to be used this year. Some of the advertisements will offer a house planning booklet to consumers.

Other events on the day's program included a luncheon, cocktail party, and dinner and floor show.

Durables Cut--

(Concluded from Page 1, Column 4)

fall, Schafer said. As a result, Coolerator has produced more than twice as many refrigerators last year than in 1949, despite definite shortages of materials, particularly steel early in the season.

While Coolerator sales of refrigerators doubled and freezers followed this pattern closely, Coolerator's most spectacular progress was noted in the electric range field, according to W. C. Conley, general sales manager, who discussed market conditions at the meeting. Using NEMA figures for the first 11 months of 1950 as the base, Coolerator electric range sales showed an increase of 365% compared to the industry figure of 93% for the same period.

Conley also told the 350 assembled distributor principals that 1951 would see a big increase in replacement sales. Corroborating this statement, D. W. Berguson, Coolerator market research manager, showed results of a R. L. Polk Co. survey which indicated that 12% of present refrigerator owners intend to buy a new refrigerator during the next year. When asked why they were planning to replace their old refrigerators (many were less than five years old) 84% answered that they wanted more capacity or more space for frozen foods.

The complete Coolerator advertising and sales promotional program for the next six months was dramatically unveiled by advertising and sales promotion manager, H. C. Beresford, who introduced "Coolerator Kitty," a new promotional personality to keynote future Coolerator promotions.

Ray Mithun, president of Campbell-Mithun advertising agency, told the distributors they should continue to build good dealers and continue to exploit all the avenues of promotion and advertising.

R. H. Schneberger, national training director, and Frank Fisher, national range specialist, dramatized the Coolerator training, demonstration, and sales aids programs. Miss Nancy Jaeger announced that Coolerator had inaugurated a farm youth educational program and has accelerated its dealer demonstration activities.

Stars of the Dave Garroway TV show presented a novel "Rag Mop" version of electric cooking and Two-Ton Baker with Ann Leddy as Coolerator Kitty, presented a replica of the first program in a current series of Coolerator radio shows scheduled to break nationally this month.

W. R. Schafer, vice president and general manager, announced that W. C. Conley, Jr., has been elected vice president in charge of sales by the board of directors. S. W. Skowbo, comptroller, was also elected vice president.

At the climax of the show, N. C. Sabee, manager of the Coolerator $100,000 Golden Opportunity Contest, announced that Clarence Powers of Bowers Wholesale Corp. was the winner of the grand prize Buick automobile on display in the Morrison hotel lobby.

Phila. Distributor--

(Concluded from Page 1, Column 3)

stantly by dealers who were not too active in previous months for shipments of refrigerators, ranges, and other appliances becoming increasingly scarce."

He further explained that some such action was necessary due to the fact that his firm expects to get "only a percentage of the white goods received for the last year or two."

Re-franchisement of "selected" dealers is expected to get underway early next month, Hughes added.

All-Industry Show--

(Concluded from Page 1, Column 2)

dustry on March 1, 1951.

Full information, floor plan, rates, etc., can be secured by writing direct to George E. Mills, show director, 7th All-Industry Refrigeration and Air Conditioning Exposition, 1346 Connecticut Ave., N. W., Washington 6, D. C.

JUST ASK US!

Turn to "What's New" Page for useful information on new products.

Wilson Predicts Materials Allocation--

(Concluded from Page 1, Column 5)

ments from William Harrison, National Production Administrator. Harrison said:

"There is no known method of bringing about a reasonably equitable and efficient distribution of scarce materials for civilian consumption short of a complete system of allocation such as was evolved in World War II under the name of the Controlled Materials Plan."

But, he added, it is impossible to invoke the plan now because of the uncertainty as to the exact nature of military requirements.

One observer said there has been talk that such a program would be put into effect during the second quarter of the year.

HOW THE PLAN WILL WORK

Here is the way the program is expected to shape up:

As in World War II, the government will depend chiefly on mandatory allocation of copper, aluminum, and steel to control production. The thinking is that control of these three will effect control of everything because a war economy is a hard-goods economy.

But the channeling of output into mobilization probably will not be nearly so extensive in the beginning as it was in 1945. It is felt that military orders in July will be taking less than 20%, dollarwise, of gross national product for war production, compared with the 42% six years ago. Ten per cent of the remaining 80% available for non-defense purposes will go to essential civilian requirements (electric power, railroad rolling stock, etc.).

The following months will see a gradual expansion of the plan. By the end of the year, it is believed, the Defense Production Administration will be allocating materials for practically every industry. All essential civilian requirements will be rated. More steel, aluminum, and other materials will be going into plant expansion.

All essential production—military and otherwise—will be scheduled from the start under the plan. It will work something like this:

Producers of essential items will inform the government how much copper, steel, and aluminum they require and when. This data will be checked by the DPA against the supplies on hand.

Then allocations will be issued to government claimant agencies. These agencies will divide their allocation of metals among their prime contractors, each of whom will grant sub-allocations to his sub-contractors.

NO HUGE STAFF THIS TIME

This setup is expected to eliminate the need for a huge enforcement body, since both the DPA and the materials suppliers will know ahead of time just what will be required.

Supply problems related to other materials will be attacked with the same controls. But scheduling and allocation will be used only long enough to crack bottlenecks.

Priorities will be continued to guide manufacturers who receive several contracts.

Sterner Appointmemt--

(Concluded from Page 1, Column 3)

automatic controls for the refrigeration industry.

After a briefing at General Control's plant in Glendale, Calif., Sterner will establish offices in Chicago and then will tour the nation visiting all of the company's factory branch offices.

After graduation from Ohio State with a degree in mechanical engineering, Sterner joined the Frigidaire Div. of General Motors Corp. in Dayton, Ohio. He then went to the Tennessee Public Service Co., in Knoxville, where he was formerly employed as an air conditioning specialist.

After a period of employment with the Minneapolis-Honeywell Co., Sterner became associated with Barber-Colman Co.

Since the war, Sterner has been employed by York Corp. until his recent association with General Controls.

The new office is the 24th factory branch to be established by General Controls. The Indianapolis branch will cover territory formerly serviced by the company's Chicago and St. Louis offices and will be under the supervision of the Chicago branch.

General Controls has purchased a 4½-acre site on McCormick Blvd. in Skokie, Ill., just a few miles north of Chicago. Plans for the new building are out for bid and construction is expected to begin sometime early this year.

The addition of this plant, Ray indicated, was deemed necessary to serve the company's growing trade in the midwest and east.

IF IT'S CUSTOMERS YOU WANT

...then start now and install

BRUNNER SINCE 1906 AIR CONDITIONING

Last year we increased our production schedules on Brunner Self Contained Air Conditioners three times—*demand was triple that for which we had planned.*

This more than anything else we can tell you, proves that in a highly competitive market, Brunner units offered more of what the buyers wanted.

When a prospect asks what you have to offer it's a mighty satisfying feeling to say "Brunner," then proceed to show him design features that even a layman can understand will deliver air conditioning values which more than justify the investment.

There is no reason why you should sell the hard way—sell BRUNNER. It costs nothing to listen so use the coupon to make a date.

BRUNNER MANUFACTURING COMPANY
Utica 1, New York, U. S. A.

Tear out and mail! I'm willing to do more business. Have your factory field representative stop in and bring me up-to-date on what Brunner has to offer me as a dealer. Send current catalogs in the meantime.

Name

Company

Address

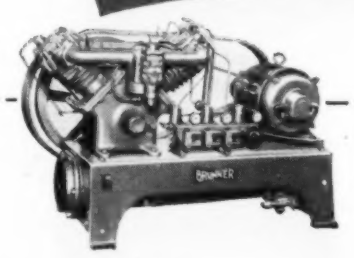
City and State

BRUNNER SINCE 1906

AIR CONDITIONING

- **Self Contained 3 HP. to 10 HP.**
- **Remote Type 3 HP. to 75 HP.**

Completely Brunner built . . . backed by a fine reputation forty-five years old.



REFRIGERATION CONDENSING UNITS by BRUNNER SINCE 1906

AIR AND WATER COOLED MODELS—*a size and type for every purpose...*¼ **HP. TO 75 HP.**